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VOLUME FIVE

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DOLLAR A YEAR

OFFICIAL ORGAN OF THE NORTHWEST FRUIT GROWERS ASSOCIATION

U. S. Department of Agriculture

# BETTER FRUIT

*MAY, 1911—ROSE FESTIVAL EDITION*



*Engraved by Hicks-Chatten Engraving Company, Portland, Oregon*

Every fruit grower should have a garden of roses surrounding his home. It not only beautifies it, but increases its value.  
"Better Fruit" recommends and urges every fruit grower to visit this year's Rose Festival,  
June 5th to 10th, 1911, Portland, Oregon

PUBLISHED BY BETTER FRUIT PUBLISHING COMPANY, HOOD RIVER, OREGON

Fruit Pests Are Unknown  
in the famous

# BitterRootValley

on Montana's Pacific Slope  
You save the labor and cost of spraying  
**Smudging Is Unnecessary**

There has not been a killing frost on the bench lands in the growing season in the history of the Valley.

There are no dust storms.

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Net profits annually range from \$2,000 to \$5,000.

Undeveloped land in this remarkable fruit district can still be bought for **less money** than is asked in other valleys less perfectly adapted by nature for successful fruit growing. Values now range from \$250 to \$350 per acre.

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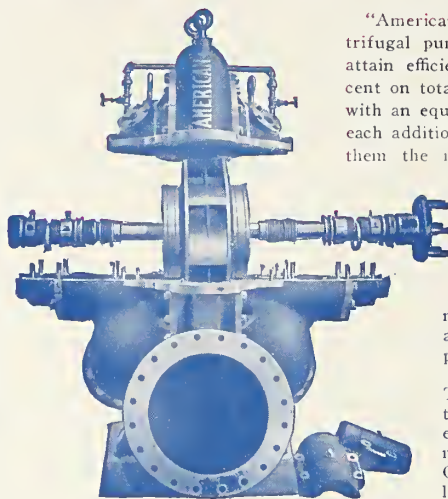
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**Bitter Root Valley Irrigation Co.**

First National Bank Building, CHICAGO

All the Grand Prizes and All the Gold Medals  
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in 1909 to pumps were awarded to

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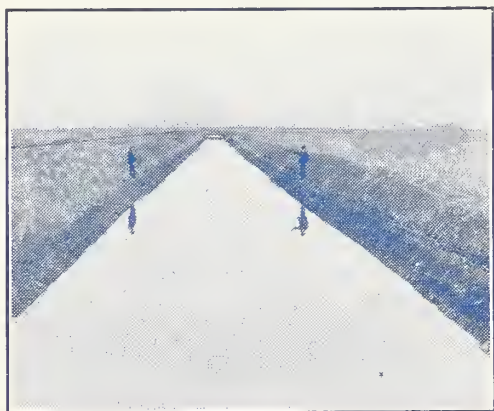
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Has developed the greatest apple and berry district of the West. Nearness to market causes larger net returns than in any other locality. Seventy-two trains daily through the valley. Every modern convenience. "Life's journey is swift; let us live by the way." The Spokane Valley has the unique distinction of being the only established apple district near a big city. Think what that means and investigate. Five thousand contented settlers.



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SYSTEM  
IN THE  
WEST



HOMES AND SCHOOL IN THE  
SPOKANE VALLEY

**SPOKANE VALLEY IRRIGATED LAND CO.**

401 SPRAGUE AVENUE, SPOKANE, WASHINGTON

# NORTHWESTERN FRUIT EXCHANGE

Offers to local fruit growers' associations in the States of Oregon, Washington, Idaho and Montana a **highly organized**, efficient sales service, based on the principle of f.o.b. sales. It has passed through its first season with high success, as attested by voluntary letters of warm approval, received from **every one of its members, without exception**. Its offices in the Spalding Building, at Portland, are being enlarged and extended, and it has made its arrangements for the establishment of a chain of branch offices, located at central market points in every quarter of the United States and Canada, in charge of salaried managers, selected especially for their experience and general fitness. The whole country will be divided in territories, with a branch office in charge of each territory, and these divisions will be limited in extent so that the farthest point will not be over a night's ride on the train from the central branch, and **every market, large and small**, will be in easy and cheap telephone communication. By this plan, the **whole** demand will be covered **every day**, which is **impossible** under any other system.

It will be remembered that the Exchange has marketed over 700 cars during its first season, most of which have been sold f.o.b. shipping point, and **125 different markets** have been employed, many of them having been opened for the first time by the Exchange. This is the widest distribution on record in the Northwest, and the Exchange has **only begun**; many new markets will be opened this season.

As an example of the averages obtained by the Exchange for fruit from a representative district, it submits hereunder the season's averages, f.o.b., for eighty-one cars shipped from Cashmere, Wenatchee Valley:

Three to Five-Tier	Ex. Fancy	Fancy	Choice	Three to Five-Tier	Ex. Fancy	Fancy	Choice
Spitzenbergs .....	\$2.06	\$1.85	\$1.35	Commerce .....	\$1.31	\$1.32	\$ .89
Winter Bananas .....	2.50	2.50	.90	Lauvers .....	1.25	1.25	.80
Winesaps .....	1.67	1.56	1.04	Ingram .....	1.25	....	1.00
Stayman Winesaps .....	1.49	1.46	1.03	Greening .....	1.10	1.10	1.10
Arkansas Blacks .....	1.60	1.56	.95	Wagener .....	1.15	.95	1.01
Rome Beauties .....	1.47	1.35	.96	Stark .....	....	1.25	....
Grimes Golden .....	1.40	1.34	.91	Kane Spitz .....	1.30	1.30	1.00
Black Twig .....	1.33	1.33	1.04	Baldwin .....	1.06	1.02	1.00
Yellow Newtowns .....	1.47	1.49	1.00	Bellflowers .....	1.20	1.20	.90
White Winter Pearmain .....	1.33	1.25	1.00	Bietigheimer .....	....	....	.85
Black Bens .....	1.27	1.22	.84	Black Beauty .....	....	....	.80
Gano .....	1.26	1.23	.83	Chicago .....	....	....	1.10
Missouri Pippins .....	1.26	1.19	.96	Duchess .....	....	....	1.00
Northern Spy .....	1.25	1.11	....	Fameuse .....	....	1.05	.90
Ben Davis .....	1.07	1.04	.93	Geniton .....	1.05	1.05	....
Senator .....	1.19	1.02	.99	Gravenstein .....	1.00	1.00	1.00
Ortley .....	1.45	....	.85	Hoover .....	....	.90	.90
King David .....	1.41	1.10	1.03	Nonesuch .....	1.10	1.01	.80
Willow Twig .....	1.50	....	1.00	Rambo .....	....	1.25	1.00
McIntosh Red .....	1.50	....	....	Red Cheeks .....	....	1.10	....
Ben Hur .....	1.25	1.25	1.00	Seek-No-Further .....	1.38	1.25	1.00

Note—These are "certified" averages. They have been verified by several of the most prominent fruit growers in the Northwest, in nowise connected with the Exchange, whose names will be cheerfully supplied on application.

In addition to the above prices, the Traffic and Claim Department of the Exchange, in charge of a railroad expert, has collected and remitted to the above shippers alone about \$1,200 in claims collected from the railroad companies, thus attesting the practical value of an expert claim department.

Associations desiring to avail themselves of the marketing service of the Exchange should make application at once. The service of the Exchange has been rendered the first season at **less than actual cost**; the continuance of the very low rate depends, in future, upon the volume of the business; in other words, upon the **support** by the growers themselves.

The Exchange is controlled by **fruit growers**, sincere in their efforts to provide a service which will help the whole industry, and men whose interests are as fruit growers first and last, and therefore identical with the interests of every other fruit grower in the Northwest.

Many new associations have become members of the Exchange in the past few weeks, among them some of the best known associations in the Northwest.

## NORTHWESTERN FRUIT EXCHANGE

GENERAL OFFICES: PORTLAND, OREGON

President, REGINALD H. PARSONS (President Hillcrest Orchard Co., 200 acres; Vice President Rogue River Fruit and Produce Association)

Vice President, W. N. IRISH (President Yakima County Horticultural Union)

Treasurer and General Manager, W. F. GWIN (Secretary Kenmar Orchard Company)

Auditor, DEAN H. WHITE

Traffic Manager, J. CURTIS ROBINSON

Cashier, A. A. PRINCE

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Top Prices and Prompt Returns  
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ESSENTIAL FOR HANDLING YOUR PRODUCTS  
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**Specialties: Apples, Peaches,  
Pears and Cantaloupes**

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Arkansas Blacks, Ortleys, Baldwins,  
Winesaps, R. C. Pippins, Ben Davis,  
M. B. Twigs

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*Grade and Pack Guaranteed*

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Hood River, Oregon

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Have for the coming season a very complete line of

### NURSERY STOCK

Newtown and Spitzenberg propagated from selected bearing trees. Make no mistake, but start your orchard right. Plant generation trees. Hood River (Clark Seedling) strawberry plants in quantities to suit. **Send for prices.**

RAWSON & STANTON, Hood River, Oregon

## Do You Want An Orchard In The Willamette Valley?

In order that we may dispose of our few remaining orchards, we offer a special inducement to purchasers in the way of transportation. This special offer, combined with our low prices, easy terms and a contract with many attractive features, makes this a bargain not to be found anywhere else in the fruit growing districts. They will not last long.

Write for descriptive literature and details of this special offer.

### OREGON APPLE ORCHARDS CO.

*Eastern Office, Bloomington, Illinois*

*Western Office, 432 Chamber of Commerce, Portland, Oregon*

# Spitzenbergs & Newtowns

*From the*  
Hood River Valley,  
Oregon

Took the first prize on carload entry at the Third National Apple Show, Spokane, Washington, and Chicago, Illinois, 1910.

The Spitzenberg car scored, out of a possible 1,000 points, 997. The Newtown car, out of a possible 990 points, scored 988.

The Spitzenberg carload also won the championship carload prize at this show.

## Can You Beat It?

We have got land improved and unimproved that is growing such fruit that can grow it.

We are agents for the Mount Hood Railroad Company's logged off lands in Upper Hood River Valley. Many started in a small way; today they are independent. You can begin today. It pays to see us. Send today for large list of Hood River orchard land, improved and unimproved, and handsome illustrated booklet.



*The above picture shows a prize-winning exhibit of Upper Hood River Valley apples at the Hood River Apple Show*

## W. J. Baker & Company

Hood River  
Oregon

The oldest real estate firm in Hood River. Best apple land our specialty

# EVERY SHIPPER

Should aim to retain his identity and build up his business year by year, by shipping exactly what he quotes, and by confining his business relations to reliable dealers.

No shipper can safely rely entirely upon his individual knowledge of his distant customers' "business methods"—it is necessary to know how such customers **have treated other shippers**. The Produce Reporter's Credit Book ("Blue Book") and the Weekly Credit Sheets, and Special Reports keep Members fully posted up to the minute.

Again, no shipper is so well equipped that he can get as good results when shipments are "refused," or complaints made, as he can through the Adjusting Department of the Produce Reporter.

Finally, **Members of this organization do not lose their identity**—do not turn their marketing over to others, perhaps a thousand miles away—but **do their own business**—the doors of opportunity are left open for the expansion and permanent development of their business through their own enterprise and ability.

No matter how reliable the party who wishes to do your business for you (and there are many—though perhaps more who are not), **carefully consider the future—what is there in their "System" FOR YOU?**

Send for pamphlet, "**Four Ways to Market Your Crop.**" Tell us, how many cars, what, and when (approximately) you will be ready to ship.

## Produce Reporter Company

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Reference:  
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## Gibson Fruit Company

(Not Inc.)

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FRUIT AND PRODUCE

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Capacity 200 Cars  
Codes: Modern Economy 131 South Water Street  
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*A Science and an Art*

It would by no means be stretching the truth to declare that an elaborate treatise easily could be written wherein ample proofs could be cited to prove that there is a science as well as an art involved in the successful selling of Western Box Apples, as well as Western Fruits generally.

## Why?

As a science we know it takes years of experience to gain the exact knowledge of varieties, keeping qualities, trade preferences, etc., to say nothing of the "eternal vigilance" regarding market conditions from season to season—aye, from day to day—in order to reach even a fair success in the way of keeping values and prices on speaking terms.

As an art, the business involves every requirement that goes to make "every man an artist in his way." Your apple man to be worth while must amass a variety of essentially technical detail that goes to make the finished salesman, for finished salesmanship is now conceded to call for talent of the highest order. We mean **talent**, not "oxaline."

Yet withal, the matter of selling Western Box Apples and other Western Fruits is a decidedly practical matter. It is largely a proposition to convert the fruits into as much of the "coin of the realm" as possible, and do this with certainty and dispatch.

For the past several years we've handled thousands of cars of these fruits annually, and we take pardonable pride in our record for RESULTS.

Correspondence solicited.

## Gibson Fruit Company

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## FROM ONE TO FOUR YEAR OLD, (STANDARD VARIETIES)

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Can be bought in five, ten or any size tract. Located in the Upper Hood River Valley. Have small or large tracts of improved and unimproved property in the lower and upper valley. Have also ten acres of bearing orchard for sale, located in center of Hood River Lower Valley.

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Arcadia is located twenty-two miles from Spokane, Washington. It's a true fruit district—with every conceivable advantage for making money in the fruit business.

Rich soil, gravity irrigation system, excellent railroad facilities, ideal climate.

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PER ACRE NET

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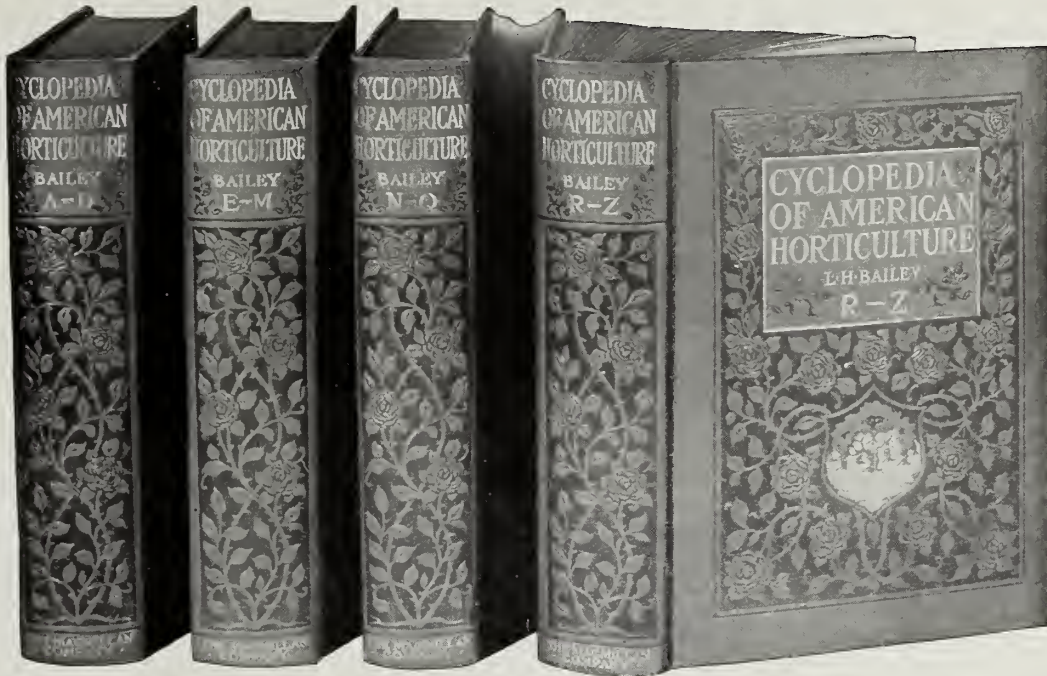


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It is therefore evident that the appeal of this work is very general. Its subject matter is of almost universal interest, and is treated in such a practical, scholarly and discriminating manner that whoever may be in any way concerned with horticulture, whether as a means of gaining a livelihood, as a mode of recreation, as an outlet for pent-up energy, as a field for scientific investigations, as a method of beautifying his surroundings, as gardener, seedsman, korist, student, teacher, botanist, merchant or country gentleman, will find in "The Cyclopedia of American Horticulture" a work replete with suggestions, abounding in ideas, and fertile in timely hints, philosophic in design, wide in scope and minute in detail—a counselor, guide and instructor ever within call.

Four large quarto volumes, 2,016 pages, 50 full page plates, 500 contributors, 2,800 original engravings, 4,400 articles, 24,400 plant names.

## Our Offer

Better Fruit has always endeavored to supply its readers with the most authoritative and up-to-date matter on horticultural methods, and has therefore made arrangements with the publishers of the CYCLOPEDIA OF AMERICAN HORTICULTURE whereby they may obtain the work on special easy monthly terms. The complete set of four volumes, bound in cloth will be delivered to you for only \$2.00 down and \$2.00 a month for 9 months. Further particulars sent on request.

**SEND  
ONLY \$2**

**BETTER FRUIT PUBLISHING CO., Hood River, Oregon**

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## NON-IRRIGATED

Having direct water TRANSPORTATION, after the Panama Canal is built, it is estimated that White Salmon and Hood River Newtowns can be put on the English market for 35 cents a box.

At the Third National Apple Show, where four carloads scored higher than the highest car last year, Hood River won **Grand Championship Prize** on Spitzenbergs and first prize on Yellow Newtown car. Two years in succession Spitzenbergs have won this prize. These two apples, Spitzenbergs and Newtowns are our specialties.

White Salmon, being just across the Columbia from Hood River, belongs to this world famous apple section of the Cascade Highlands.

Other places of the Northwest are also profitable for orchards, but in these highlands is the place to live and enthuse, as well as to make money.

White Salmon, being a comparatively new orchard section (opened by the recent construction of the North Bank R. R.), there are great opportunities for investment.

## Development League

### WHITE SALMON, WASHINGTON

## Irrigated Orchard Tracts Rogue River Valley



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OREGON ORCHARDS ARE THE MOST FAMOUS  
IN THE WORLD

ROGUE RIVER VALLEY IS THE BEST ORCHARD  
DISTRICT IN OREGON

SOLD ON SMALL MONTHLY  
OR ANNUAL PAYMENT PLAN

The Rogue River Valley has made the apple king. It has won the national prizes at the greatest shows ever held in America. It has received the highest prices ever paid for fruit in the New York and London markets. It has been declared by government experts to be the most perfect fruit belt in the world, and has proven beyond the question of a doubt that it will be the most important fruit section in the entire country. The development of orchard tracts is very profitable. You can make \$1,000 per annum on a five-acre tract while your orchard is coming into bearing. You can clear \$500 per acre when your orchard is developed. We will sell you a five-acre irrigated orchard tract in the very heart of this wonderful orchard country, with splendid railroad facilities, near the prosperous city of Medford, planted to standard varieties of apples or pears, at \$350 per acre; \$350 cash, balance covering a period of four years. Orchards cared for during a period of five years or turned over at once to the purchaser.

Let us tell you all about the glorious country of Southern Oregon and the wonderful orchards that have made this valley famous. Write for our literature. Our references: Bradstreets and R. G. Dun.

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FRED N. CUMMINGS, MANAGER

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# OKANOGAN IRRIGATION AND IMPROVEMENT CO.

*Capital Stock, \$500,000*

Project in the very heart of the justly famous fruit belt of Okanogan County, Washington.

Over 15,000 acres of irrigated land below the high line ditches of this Company.

Ten thousand acres of land now under contract, and as much more available for irrigation.

Two thousand square miles of water shed on mountain streams furnish an abundant supply of water.

Reservoirs with storage capacity for twice as much water as needed for reserve supply in seasons of possible drouth.

## No Better Fruit Land in the State of Washington

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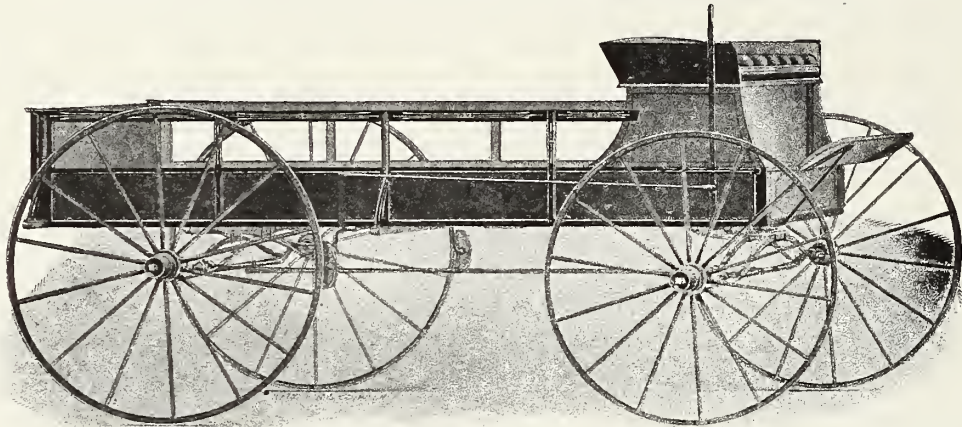
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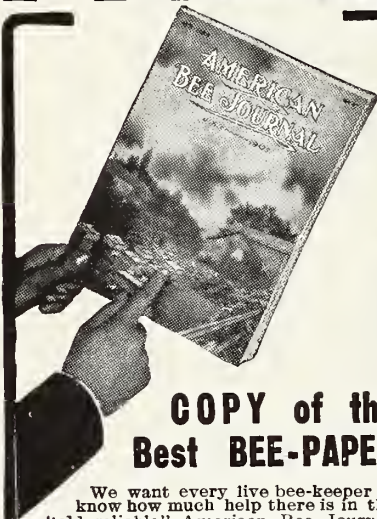
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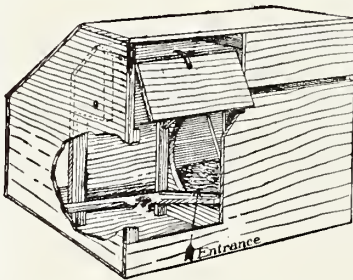
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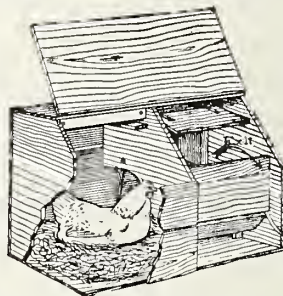
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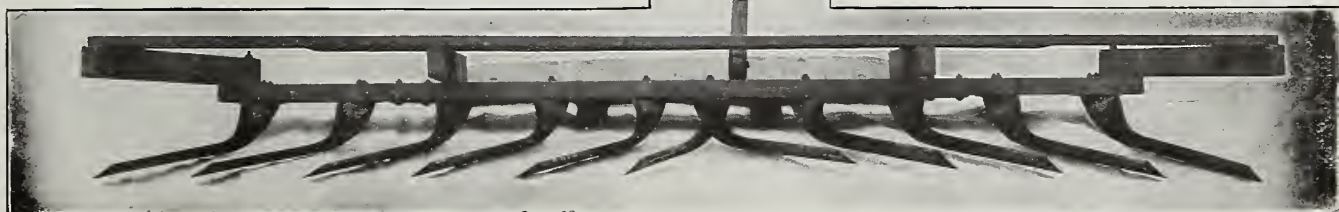
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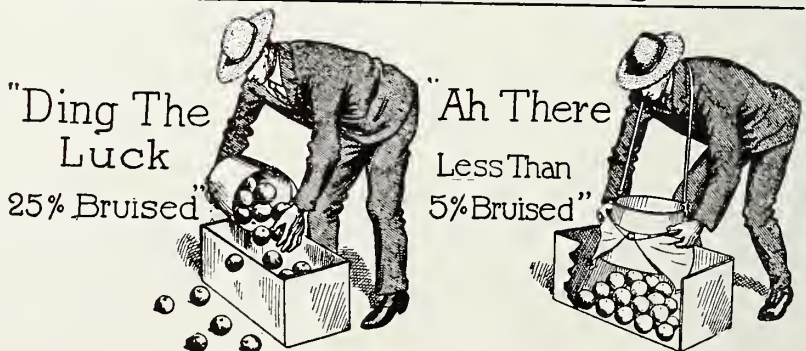
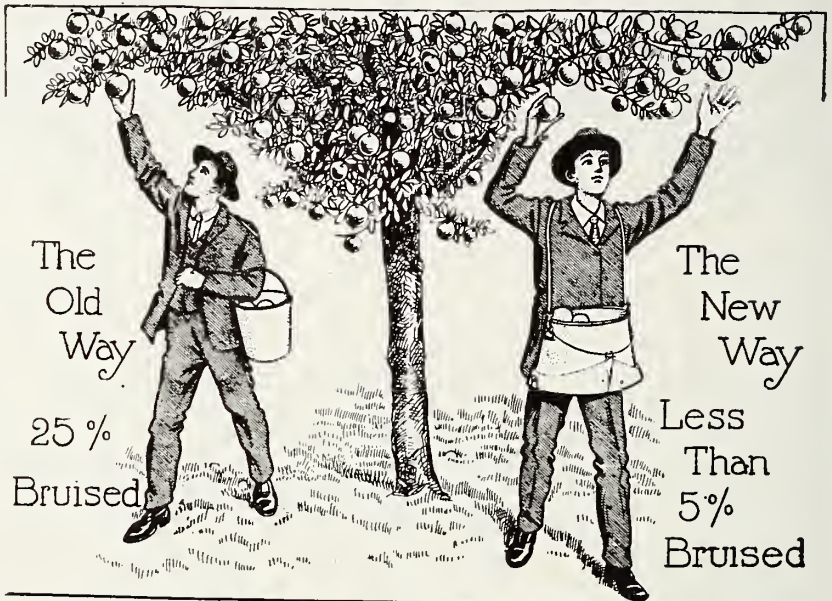
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10 acres highly improved,  $2\frac{1}{2}$  miles from town;  $3\frac{1}{2}$  acres 7-year-old Newtowns and Spitzenbergs, 2 acres 3-year-olds; balance in berries and clover; good house, barn and other outbuildings. An ideal home. Price \$10,000; \$3,000 cash, balance on or before 5 years.

15 acres,  $6\frac{1}{2}$  miles from Hood River; near railway station, school and church; all set to Newtowns and Spitzenbergs, as follows: 5 acres 7-year-old, 3 acres 6,  $1\frac{1}{2}$  acres 4, and  $4\frac{1}{2}$  acres 3-year-old. Trees in A-1 condition; picked 1,120 boxes of apples this year; three acres of strawberries between trees; old house, good barn. This tract is one of the best buys in the Hood River Valley at the price of \$14,000; \$5,000 cash, balance on or before 5 years at 7 per cent.

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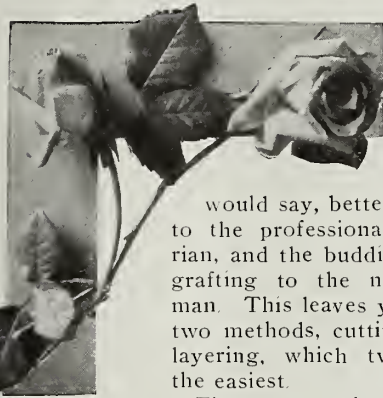
Hotel Oregon Building, Hood River, Oregon

# BETTER FRUIT

A MONTHLY ILLUSTRATED MAGAZINE PUBLISHED IN THE INTEREST  
OF MODERN AND PROGRESSIVE FRUIT GROWING AND MARKETING

## PROPAGATING THE ROSE, WRITTEN FOR AMATEURS

BY PROFESSOR J. A. BALMER, MOUNTAIN ROSARY, CLE ELUM, WASHINGTON



**R**OSES may be propagated in a variety of ways, viz., by seeds, cuttings, layerings, budding and grafting. But as these notes are written for the guidance of amateurs, I would say, better leave the raising from seed to the professional rosarian, and the budding and grafting to the nurseryman. This leaves you the two methods, cutting and layering, which two are the easiest.

First let us take up the method of propagating by cuttings. In all the old works on rose culture instructions something like the following will be found: "In the autumn take well ripened wood six or eight inches long, with a heel if possible, and insert in the ground five or six inches deep; the best soil is a deep sandy loam; protect during the winter; the following autumn the roses will be rooted and ready to transplant." This is the old fashioned way, and while not a bad way to increase your stock of roses, yet it is not modern. There is progress being made even in the matter of rose propagation.

Many times I have had ladies say to me: "I have no luck propagating roses." There is no luck in the matter. Success is bred of an understanding of the matter in hand, so listen! Cuttings of all semi-hard-wooded plants, and this includes the rose, root best and quickest when the plant is most active, or rather I ought to say, root best when the cell-building material is most abundant. This stage is reached in the rose at the time the plants have bloomed and are dropping their petals. This, then, is the time to take the cuttings, right in the height of summer. Especially is this true of such kinds as the teas and hybrid teas, which we now have in such variety, and which are so popular. Let us suppose, then, that you have a dozen plants comprising several varieties and that you desire to increase the stock of each. If you only wish to put in a dozen or two cuttings secure a six-inch or eight-inch flower pot, and after having put a wad of moss to cover the hole in the bottom—this for drainage—fill the pot to the brim with perfectly clean river sand, or bank sand will do if it be free from soil; pack the sand tightly in the pot with a potato masher or piece of scantling, then thoroughly water it; now the

pot is ready for the cuttings. Morning is the best time to do the work; foliage will be crisper in the morning and the cuttings less likely to wilt. There are several ways to make a cutting, but the best way is to secure a cutting with a heel (Figure 1) and two or three eyes. Notice that only a part of the foliage is removed. If you remove all of it you destroy the lungs of the plant. On the other hand, if you leave it all on transpiration will be so rapid that your cutting may suffer.

Some strike a happy medium and cut off half the foliage. Of the five lobes on a rose leaf I usually cut off three, leaving the two at the base (see Figure 1). Cuttings may be made with a sharp knife, or, better still, with a pair of small, sharp pruning shears. Scissors are not good for the work, as they bruise the cells too much. A safe rule is to make a three-eye cutting. Eyes as here referred to are leaf buds in the axles of the leaves—one at the base, which goes under the sand and two above. A longer cutting in tea roses is a waste of wood; a shorter one makes a somewhat weaker plant. If the wood be from a blooming shoot discard all the wood except the three eyes nearest the base. Your cuttings made, you are ready to insert them in the sand, and for this purpose you need a dibble, which is a sharp-pointed stick, or a forty-penny nail will answer just as well. Dibble the cuttings in the sand about two inches deep and about two inches apart. As you proceed press each cutting firmly in the sand with finger and thumb. Your pot or box filled, water thoroughly, label the variety and cover with a celery glass, a bell glass or a large goblet, or in the case of a box cover with a large pane of glass and stand in a north window, kitchen window preferred, for there the cuttings will always be under close observation. Figure 2 is a pot of cuttings filled with rose cuttings and covered with a bell glass. Every morning remove the cover from the cuttings and wash the glass in clean water. This gives the cuttings the necessary fresh air. Every second morning the sand in which the cuttings are ought to be watered with tepid water—not too much—just enough so the water runs out at the bottom a little, and if the cuttings are sprayed overhead it will do no harm. In fifteen to twenty days the cuttings will begin to callous, i. e., a bulbous excrescence will form on the base of the cutting. This stage will be made manifest by an altered appearance in the cutting, the leaves will be more erect, crisper and greener, and the plant will appear to be growing. In about thirty days most varieties will be rooted. However, some kinds require thirty-five to forty

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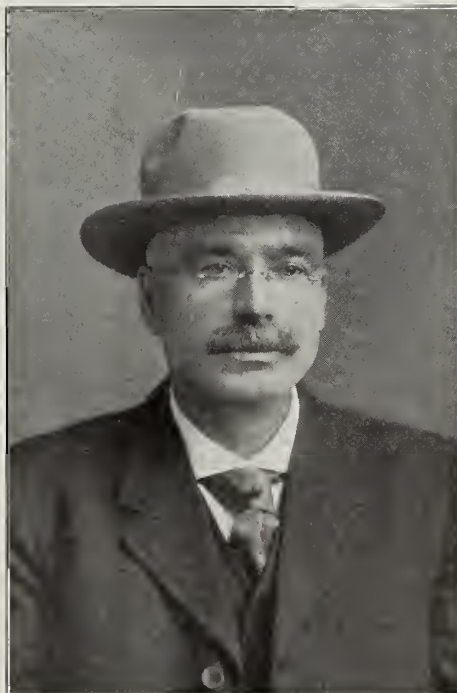
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PROFESSOR J. A. BALMER

Of Cle Elum, Washington, formerly professor at Washington State Agricultural College, Pullman, Washington, leading rosarian of the West.



FIGURE 1—AMERICAN BEAUTY

days. When it is known the cuttings have rootlets half an inch or more long (Figure 3) then it is time to pot them off; and this is a job that requires considerable care, lest you destroy most of the roots. The best compost in which to pot these baby plants is good, rich garden soil, but there must be no rank manure or strong fertilizer in it. The soil should be passed through a quarter-inch sieve, or at least made as fine as possible with the hands; two or two and one-half-inch pots are large enough to receive the rooted cuttings, and after all are potted they may be put on a tray of damp sand and put back on the kitchen window sill, inside, or, better still, under a light of glass or in a cold frame on the north of the house, outside. They will require to be carefully, yet thoroughly, watered after potting, and should have no more water for a week, during which time they must be kept from sun and air as much as possible. After a week the little plants will have established themselves in the new soil, and from now on may have more air, water and exposure, until they do not need to be covered at all. Now, please remember, there is nothing arbitrary in these instructions. If you have not got flower pots and bell glasses you may use a box and a pane of glass, and the whole work may be done outdoors, on the north side of a building. Whether you put a half-dozen cuttings in a pot, or a hundred in a box,

or a thousand in a hotbed, the principle is the same. The cutting is a suspended plant and will, if given proper environment, reproduce itself. It must be borne in mind never to let the cutting wilt, and during the whole time it is forming callous and roots it must not be exposed to sun or drafts of air, and that the sand must never be dry, yet not waterlogged. Do not stand pots containing cuttings in saucers of water, for this excludes the air and prevents the downward movement of water. If you cannot get small pots in which to grow the rooted cuttings small bean cans, pepper or other small cans will answer; always remembering that you can hardly get the cans too small, and that the bottoms must be punched full of holes to allow of proper drainage. Remember, too, never to expose a tin can in which a plant is growing to the direct rays of the sun, for tin is a great conductor of heat, and all roots on the exposed side will burn and your plant suffer.

All roses may be propagated in this way. Florists prepare large hotbeds

have subjects of this kind we resort to not seem to root readily, so where we layering to increase our stock. Moss roses, sweet briars and the old Persian yellow are some of those difficult to root. Layering is a simple process. Dig the ground around the plant to be operated on and make it as fine and friable as possible. Select a spot near the extremity of a limb, where its last branches or division is, from the underside of the limb make a slanting cut, severing the limb half to two-thirds through, bend the limb to the ground and peg down the slit portion in the mellow soil, using bailing wire, bent hairpin fashion, and about six inches long; use one of more of these, and if the limb has a tendency to spring back to its old place weight it down with a brick or stone, or something handy. This layering is best done just after blooming time, and the limbs may be left pegged down till fall, when the portion pegged in the ground may be wholly severed from the parent plant and the young plants given new positions in the garden.

Those varieties of roses known as hybrid perpetuals, and which do little branching but make long, straight canes, may all be propagated in the way above described by cutting the canes into sections of three to five eyes, removing part of the foliage and treating exactly as with teas and hybrid teas. These long caned fellows may also be propagated by cutting the canes into sections about six inches long in the autumn and sticking them in well prepared ground in a sheltered place. Do not try this plan if the temperature in your locality goes as low as zero, for you would lose most of them. Roses propagated in this way must be left where they are stuck for a year, after which they may be used in making new beds.

As these instructions are written for the ladies who read "Better Fruit," and solely with a view to the encouragement of a love of the beautiful, I trust you will try and root a few cuttings of the queen of flowers next July. It is more fun than raising chickens.



FIGURE 3

within a greenhouse, cover them with sash to preserve the proper condition of moisture and air exclusion, cut rose branches in armfuls, plunge them at once into a tub of water to prevent wilting, and in this way propagate the beautiful roses in tens of thousands. After the young plants are thoroughly established in their pots and inured to the weather, which will require five to six weeks, they may be planted permanently in the garden or put into a larger pot, as you desire.

Figure 4, reading from left to right: The first is an American Beauty cutting, four eyes. The second is a typical hybrid tea, four eyes. The third is a two-eye rooted cutting of Bridesmaid, a tea rose. Notice all the foliage is trimmed partly off. Figure 5 is a typical cutting of a hybrid perpetual of summer blooming variety, and shows a four-eye cutting, trimmed ready for the sand. Figure 6 shows a cutting of a tea rose with the top eye or leaf bud too far started. Discard all wood where the eyes have started, for they will make unsatisfactory plants.

There are certain roses somewhat difficult to propagate by cutting. They do



FIGURE 2



FIGURE 5—AMERICAN BEAUTY

# ROSES AND HOW TO PREPARE FOR THEIR GROWTH

BY REV. SPENCER S. SULLIGER, D. D., IN THE OREGONIAN

**T**HE one thing usually neglected in rose culture is the proper preparation of the ground. Without doubt a fairly stiff clay soil is the ideal for a starter. If it has natural drainage of gravel or sand about three feet beneath the surface, and the clay soil be suitably enriched, we will have the ideal for general rose growing. True, the tea rose enjoys a lighter soil, and many of the hybrid tea roses do well in a lighter soil. But clay, clay, clay is to be the basis, and then each rose bed enriched and



FIGURE 4—TEA ROSE AND AMERICAN BEAUTY

lightened to suit the hybrid perpetual, the hybrid tea and the tea roses. If natural drainage of gravel or sand is not yours it will pay to dig out the soil for about two and one-half feet deep, fill in six inches of gravel and then replace the soil. Lots of work? Sure! But a great truth about roses was never better stated than in the opening chapter of Dean Hole's work, "A Book About Roses": "He who would have beautiful roses in his garden must have beautiful roses in his heart. He must love them well and always. He must have not only the glowing admiration, the enthusiasm and the passion, but the tenderness, the thoughtfulness, the reverence, the watchfulness of love."

Lacking clay in my rose garden at Bellingham, I excavated to the depth of two feet a bed for some choice roses. Mixing with the clay I had obtained some of the excavated ground I refilled the bed. The result? In a very sharp contest the following year I captured four first and three second prizes at the rose show. And every prize won, except

one first and one second, came from this specially prepared rose bed. But if you have ordinary garden soil and will properly plant roses where they will have plenty of sunshine and air you will have roses galore.

For instance, for my rose garden in Vancouver I was forced to have the lot graded when the clay soil was quite wet, and this soil was mostly that excavated from the basement of the dwelling. A most unfavorable starter, save the fact that the soil was clay. Neighbors concluded that the roses would either die or come to nothing. But they did not consider that I dug out the ground for about two feet deep and two feet across and put well mixed soil around each rose planted, being sure that each knob where the rose had been grafted on the Manetti root—and I grow only grafted roses—was put about three inches below the surface of the ground, thus limiting, if not preventing, the crop of wild suckers. All this after I had carefully cut off every piece of bruised root and also cut back almost all the healthy roots some, and carefully spread the roots of each rose so that none were crossed or planted too deep. The result was as fine roses as I have ever grown.

The "Queen of Flowers" has many enemies. If the other flowers are jealous of the queen and have hired assassins to destroy her these assassins certainly



ROSE, BRIDESMAIDS

Grown by J. A. Balmer, Cle Elum, Washington



ROSE, THE BRIDE (WHITE), BRIDESMAID (PINK), AND RICHMOND (RED)

Grown by J. A. Balmer, Cle Elum, Washington

Here, in a nutshell, you have about all that is needed for the proper planting of roses. Technical and minute instructions are oftener confusing than otherwise. Purchase healthy two-year-old, out-of-doors-grown rose bushes from a reputable dealer, even if the first cost is a little high. Then properly plant them in the ordinary garden soil, and results will be good. True, if you want the ideal then look to the clay and the drainage, with proper enrichment of soil.

understand their work. From childhood to old age the queen has a fight. Fortunately, good cultivation will do much to prevent or control the many pests the rose is subject to. I believe that proper planting, cultivation, pruning and spraying as a preventive will keep almost any rose bush in a healthy condition. Preventive spraying, which should be done during the fall, winter and spring, is the secret of healthy rose bushes in the summer. Spraying calendars, giving the day in each month when each kind of spraying liquid is to be used, are almost all of them worthless, or worse than worthless—harmful. The less roses are sprayed, excepting when the bushes are dormant, and the more they are cultivated the better roses you will have. Spray the bushes in the late fall, winter and in the early spring before the leaves start to grow with rose bordeaux mixture, mixing arsenate of lead with the early spring spraying, and if the beds are properly fertilized and cultivated with a hoe during the spring and summer the roses will be better without any spraying after the leaves have appeared in the spring. Cultivation should be as frequent as is needed to provide a good dust mulch, but shallow, so as not to disturb the feeding roots of the rose, which are near the surface of the ground.

The rose bordeaux mixture is the one indispensable for rose culture. The market is full of ready-to-use mixtures and substitutes, but the one safe thing is to make your own mixture. This can be done with but very little trouble if the following directions are followed: Dis-



FIGURE 6—TEA ROSE



PICKING CLIMBING ROSES, PORTLAND OREGON

solve one pound of sulphate of copper (blue vitriol) in two gallons of hot water. As the blue vitriol corrodes tin it must be dissolved in an earthen vessel. Let the mixture stand over night, when the copper will be fully dissolved. Then strain through a cloth and keep the strained liquid in a well corked and well glazed jug. Dissolve one pound of fresh, unslaked lime in two gallons of cold water, pouring the water on the lime slowly. Let it stand over night, stir and strain through a cloth and keep in a tightly corked jug. When a spray is to be used take one quart of the copper solution and one quart of the lime solution, shaking the jug before pouring out each liquid. Then add one and one-half gallons of water, thus making two gal-

lons of spraying solution. Superior cultivation is a great preventive of aphids. Keeping the ground free from weeds and a baked surface will do much to stimulate vigorous growth of rose bushes, and thus destroy the feeding ground for aphids.

Mildew is a formidable enemy. Preventive measures are decidedly the best. Dissolve one-half ounce sulphide of potassium and an ounce of shavings of pure soap in two gallons of hot water, strain and use with an auto spray. Pure soap is used because it will not hurt the foliage, and because it will discourage any activity of aphids as well as cause the sulphide of potassium to stick better. This spray should be used about twice during the growing season; the first time after the leaves are well unfolded in the spring and the second time after the first blooming season. It will do much to prevent mildew and aphids. After mildew appears there is little that can be done. The best plan is to cut off every diseased leaf and branch and burn them. Never under any circumstances allow the cuttings from a rose bush to lie on the ground—and this whether mildew is



CORNER OF ROSE SHOW, ROSE FESTIVAL PORTLAND, OREGON, 1910

present or not. Burn up all cuttings. The application by the use of a good powder bellows of a powder made by mixing one-third soot and two-thirds flour of sulphur to the rose bush is the best remedy after the mildew appears. But the preventive spraying with the potassium and soap solution; the presence of plenty of both sunshine and air, both of which may be aided by proper pruning; the avoidance of sprinkling roses in the evening—which, outside of mulching with reeking, fresh manure, is the most prolific cause of mildew—and the frequent and proper cultivation of the ground, so that no hard, baked crust excludes the air and sunshine from the roots, will be the best that can be done to prevent mildew. Of course, if you grow Killarney, Her Majesty and some other roses that always mildew, no matter where nor how you plant them, nor what you do with them, you will have mildew.

For winter mulching and spring enriching of the ground, unless the ground is a wet soil and not well drained, use cow manure. But don't put six inches of reeking, fresh cow manure on the rose beds for mulching and be surprised if



Photo by Crego

BUD OF "MADAME MELANIE SOUPERT" AT PORTLAND, OREGON

you have poisoned rose bushes and mildew the next spring and summer. The best way to prepare both a mulch and fertilizer is to get a galvanized iron pan made, about five inches deep and as large as you will need, with a few small holes in one corner of the bottom of the pan. Then build a tight board box, with neither top nor bottom, that will fit inside the galvanized iron pan. Put in this box fresh cow manure, cover tightly and shed so that no rain can get into the pan or box. Let the liquor drain through the holes in the corner of the pan and keep in a jar or keg, both to be well closed, to be used for liquid manure in the spring and early summer, or pour it back on the manure in the box. In one year this box of manure will be properly rotted and ready to be put on the rose bed in the early winter, to remain for a winter mulch and to be dug



ROSE ARCH IN YARD OF TOM RICHARDSON PORTLAND, OREGON



TREE ROSE IN A PORTLAND, OREGON, GARDEN



ROSE-WREATHED FIRE ENGINE IN PORTLAND, OREGON ROSE FESTIVAL PARADE, 1910

in early in the spring. If you are so situated that you cannot do this then mulch with well rotted manure and dig that in early in the spring, using artificial manure during the spring and early summer.

Fall planting of two-year-old bushes of hybrid perpetual and hybrid tea roses is the best. I have never yet lost a single fall planted rose, and late spring planting has cost me many bushes. But fall planting must be well done. Following the rule for the preparation of the ground and planting let the fall planted rose be so cut back that no staking is needed. On the Pacific Coast the planting should not be done before the last of November or the first of December. In the Middle West and East in October. If planted too early a growth of bush will result and the first freeze will seriously damage the bush. If planted late there will be none, or very little growth of bush, but root growth will go on and make a spring

growth of bush that is ideal. After planting mulch with well rotted manure and keep the mulching during the winter well up around the bush. Losses of fall planted roses come almost wholly from the wind working the mulching and soil away from the rose bush out even to the very ends of the roots. Then a sudden freeze and a dead rose bush. Keep the mulching well up around the base of the bush during the winter, and fall planting will bring roses in June that no spring planting can do. Tea and tender roses had better be planted in the early spring. Hothouse roses, if you plant such things, can be planted any time in spring or summer.

It is impossible to give directions for pruning that will apply to all roses. The rose books that have illustrations of rose bushes, showing the markings where the first and the subsequent prunings shall be, always seem to me to suppose that the grower of roses must carry a book, a yard stick and a piece of chalk to

measure and mark the places where the bush is to be cut. A few general rules belong to pruning: First, prune so that the new growth will make a beautiful bush as well as a beautiful bloom. Second, always cut to an outward-pointed eye. This prevents the crowding of the center of the bush, if you are careful to rub off many of the inside shoots that appear and cut out entirely the canes that come inside. Third, if you want summer and late fall blooms cut back after the first blooming season. Much of this can be done when roses are cut for the house, the hospital and the "shut-ins." Make a liberal stem to each rose you cut, observing the rule of cutting to an out-pointing eye. If this leaves too much stem on the cut rose it can be trimmed after the cutting. Fourth, remember that insects rarely ever deposit their eggs on the lower part of the rose branches. If the final pruning in the spring is a close one, and every cutting is burned, it will mean the destruction of thousands of rose pests. Fifth, late in the fall cut out all weak growth and cut back the canes so that not too much bush is left to be switched around by winter winds, thus working the mulching and soil away from the rose and endangering loss by freezing. In the spring cut out all extra canes and cut back the canes that are left so that an attractive bush will result. Hybrid perpetual roses should, as a rule, be cut back vigorously. Hybrid tea roses not so much and tea roses less yet. But these are only general rules. Many of the new roses are a law unto themselves when it comes to pruning.

Hugh Dickson, J. B. Clark, a magnificent rose if properly pruned, Mrs. Stewart Clark, Dr. O'Donnell Brown and a few other vigorous growers need to have special pruning or you get poor roses. The rule for these roses is to cut out entirely all but from four to six canes, and cut the remaining canes back very moderately. When the new, rank canes shoot up they should be cut off when about three feet high. Side branches will then form and give magnificent



READY FOR ROSE FESTIVAL PARADE, PORTLAND, OREGON



EXTERIOR VIEW OF A PLEASURE RESORT DURING THE ROSE FESTIVAL, PORTLAND, OREGON



HEDGE OF ROSES OUTSIDE OF SIDEWALK IN RESIDENCE  
PART OF PORTLAND, OREGON



WHERE THE ROSE SHOW IS HELD IN PORTLAND, OREGON

roses. If these roses are pruned back like the weaker growers should be the result will be a rampant growth of bush and few and inferior roses. This is true of many of the new and vigorous hybrid tea roses. Indeed, despite all I could do with them, Mrs. Stewart Clark and Dr. O'Donnel Brown have done but little else but make bush this year. They are in for one more year's trial and then, if they do not reform, they go to the incinerator, where I long ago consigned Killarney, Her Majesty and some other mildew breeders.

Lady Ashtown, Betty, Jenny Guillemot, Madame Melanie Soupert, Madame Phillippe Revoire (one of the most beautiful yellow roses in the world), Madame Ravary, General McArthur, Pharisaer (a beautiful rose that is not grown as much as it should be) and others of the same character of growth will do better if five or six, or even more, canes are left and those cut back about one-half the length of cane. Always remembering to cut out all center growth as well as cut the canes that are left to an out-pointing eye. There is no rule of pruning so absolutely imperative as to cut so the center of the bush is kept open for sunshine and air.

Then such roses as Captain Christy, Marchioness of Downshire, Mrs. R. G. Sherman-Crawford, Mildred Grant and

Frau Karl Druschki, with the more or less pronounced characteristic of growth of putting out two or more branches in a cluster, must be pruned to where there seems to be only one out-pointing eye, and then rub off, as soon as they appear, all growth of branches save one at each point.

A few others that shoot out too many branches, but not in clusters like Captain Christy, need pruning back until not so many eyes are left on the cane, and then all in-pointing eyes, as well as about one-half of the other eyes, rubbed off just about as soon as they appear.

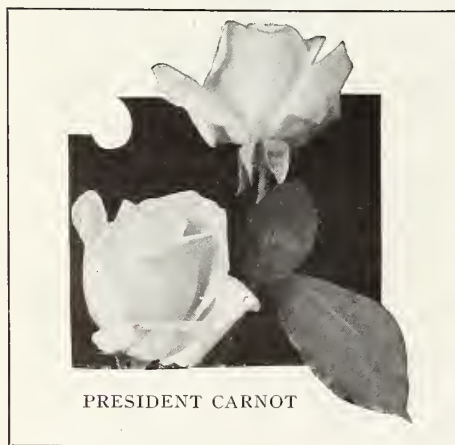
Then such growers as Mrs. David McKee, Miss Kate Moulton, Etoile de France, Elizabeth Barnes, Joseph Hill, Franz Deegan, etc., should be pruned so that the growth of bush will be symmetrical, only observing the rule of keeping the center of the bush from being crowded.

Three commonly grown roses I never grow, i. e., General Jacqueminot, Maman Cochet and Kaiserin Augusta Victoria. A dozen splendid crimson roses that do not get the "blues" when they get a little off are far superior to the scarlet General. Maman Cochet is an ungainly bush and a drooping bloom that is out of proportion to the branch, and in no way is equal to Mrs. Edward Mawley. Kaiserin Augusta Victoria is a good rose, but is excelled by Mrs. David McKee and the newer rose of that class, Molly Sherman-Crawford. Then the newest rose of this class, Mrs. Foley Hobbs, is a fine rose, and far superior to either of the three mentioned. I am sure it will prove to be the leading rose of the above class, of which the Kaiserin Augusta Victoria was the first one on the market. I have not been able to get this new rose, Mrs. Foley Hobbs, but it made a fine showing at the recent London Rose Show.

I have been anxious to have Rhea Reid measure up to the expectations of its grower, that gentlemanly rosarian, Mr. E. G. Hill, of Richmond, Indiana. But it will not do it. Mr. Reid has given

to the world three crimson hybrid tea roses of merit—General McArthur, Richmond and Rhea Reid. His favorite, I suspect, is Rhea Reid. But I am sure that General McArthur is decidedly the best general purpose rose of the three. General McArthur is of good color, does not fade quickly, is a continuous bloomer and very fragrant. It is not so vigorous a grower as Rhea Reid.

I add a word about that magnificent rose, J. B. Clark. No rose will be more disappointing unless it be carefully pruned, as stated in this article. No crimson hybrid tea rose will give better returns for intelligent culture. It is difficult to describe the exact manner of pruning this rose, but a little patience and observation will soon demonstrate to each grower the method of pruning that will give the best results.



PRESIDENT CARNOT



VASE OF COMET ASTERS—LAVENDER GEM

## SUGGESTIONS FOR THE CULTIVATION OF ROSES

BY WILLIAM S. SIBSON, SIBSON ROSE NURSERIES, PORTLAND, OREGON

UPON arrival of plants, open the package in some sheltered place, where drying winds cannot penetrate. Sprinkle the roots and tops with water, then cover with a sack or something until planted. Should the ground be too wet for planting dig a shallow trench, lay the plants therein and cover the roots well with soil until the ground and weather are favorable.

Should frost prevent planting do not open the package, but put in a cool house or shed, where there is no fire. Cover with sacks or straw, and await favorable weather.

Delay in transit will occasionally happen, and perhaps from having been so long on the way some of the plants may look shriveled. In such a case dig a trench, lay the plants quite flat therein and cover both roots and tops with soil. Then soak well with water and keep them covered three or four days. It is wonderful how this method will revive the plants, which will usually entirely recover plumpness and good condition.

"Roses love shelter and warmth, and the choice of a situation should, if possible, be regulated by these considerations. At the same time they will endure severe exposure, and no one need hesitate to plant even if the situation be less favorable than could be desired."—William Robinson. Any good garden soil is suitable, that with a good, loamy subsoil being the best. Dig the ground to a depth of at least eighteen inches, well pulverizing the soil and mixing plenty of old, well rotted manure. In case of budded roses, place the union of the stock with the bud about three inches below the surface. Spread the roots out carefully (not allowing manure to come in contact with them); place some fine soil among and over them, tread in firmly, then fill in with the remaining soil.

Old cow manure is the best fertilizer for roses, and after the plants become established they are gross feeders. To obtain

the best results an occasional drenching at the roots with weak liquid manure is essential, especially after the buds are formed, and during their development. In the late autumn, when the ground is dry, apply a surface dressing of manure, which, after remaining through the winter, should be spaded in the following spring.

Strong growing, vigorous kinds should be cut back moderately to six or eight eyes. The weaker and moderate growers must be pruned closer, to three or four eyes. In all cases cut out old, infirm, weak and unripe wood, leaving only the well ripened shoots. Always cut to an eye pointing outward, which tends to keep the plant shapely, and the center open. The above refers to hybrid perpetual, hybrid tea and tea sorts. When planted in the spring prune just before planting.

Climbing roses should not be cut back severely. The tips of the healthy shoots only should be taken out, and the remaining shoots thinned out.

If the weather be dry newly planted roses should be sprinkled overhead daily with water, and well saturated when necessary at the roots. Established plants should be treated to weak liquid manure occasionally, as above.

Aphis are sometimes troublesome, but good cultivation will often prevent their ravages. When they appear cultivate the ground and sprinkle the plants with tobacco dust or insect powder, spraying them afterward with water. The caterpillar or rose grub must be picked off by hand.

One of the best remedies for mildew is flour of sulphur dusted over the affected part as soon as it makes its appearance. A weak solution of bordeaux mixture, sprayed over the plants in winter and early spring after growth begins, will often prevent the ills to which the rose is liable.

Rub off weakly ingrowing shoots as soon as they appear, and pick out with



ROSE, LYON

the point of a pencil or similar instrument the small and undersized flower buds, leaving only the center flower bud on each flowering shoot. This method is pursued when extra fine blooms are required for competition or other purposes.

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A man who has had ten years' experience in handling commercial orchards is open for engagement. Had charge of one of the largest bearing orchards in Oregon for five years. References given on request. Address R. M., care "Better Fruit," Hood River, Oregon.

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Editor Better Fruit:

Your work is splendid. Please continue to censor your articles, as I depend on them for new and valuable ideas. E. H. Roberts, Peonia, Colorado.



AUTOMOBILE ENTERED FOR THE ROSE FESTIVAL PARADE  
PORTLAND, OREGON



ON THE FRONT LAWN, IN THE RESIDENCE SECTION OF  
PORTLAND, OREGON

## THE ROSE—ITS PLANTING AND THE CARE OF IT

F. V. HOLMAN, IN SUNDAY OREGONIAN

PLANTING should be done, if possible, with comparatively dry soil—a very difficult thing to do sometimes. By dry soil I do not mean dust, but I mean soil which breaks all at one time in that beautiful way that a gardener likes, when the spade is put into it and it is turned over. For myself, I get leaf mold from Sauvie's Island, where I go duck shooting. This is as black as gun powder, even when it is dry. A similar mold can be found in the forests or woods around Portland, but if you cannot get that the best thing to do is to get well rotted manure with two parts of rich loam to make the soil in which to plant your rose bushes.

Anyone can make leaf mold by gathering up the leaves from the streets and sidewalks in the fall and putting them in a sugar barrel or other cheap barrel, pressing the leaves down as much as possible, and leaving the barrel uncovered so that the rain will wet the leaves and cause them to rot. Be sure to keep the leaves wet throughout the winter. By the next spring each barrel will be about half full of black pulverized leaf mold ready for use, and this is the best material with which to plant roses that you can get in any way. Hundreds of tons of leaves are carried away by the street cleaning department each year which should be saved and used.

I use my hand in planting roses, for you know that after all the best tool is your right hand—unless you are left-handed. Make the hole at least two feet deep. Fill the hole to near the top—you should not plant your roses too deep—then take the rich earth, not too wet, and press it down with your hand about the bush so that there will be actual contact of the root with the soil.

If you have quite a large hole and a large bush you can step on the soil gently and firm it down—gardeners sometimes use the handle of a spade and pound it down, but with small roses the

hand is the best tool. If you plant when the soil is very wet it will cake, and the tender roots—the white roots—which really give all the sap and substance to the plant, will not penetrate this hard soil. There is another thing to be taken into consideration; the hardy varieties, the hybrid perpetuals and hybrid teas, do better where planted in the fall, and it is better to get low-budded roses for that purpose, which, however, are more or less expensive. These should be planted so that the point of budding will be about three inches below the surface.



TREE ROSE CAROLINE TESTOUT  
August blooming. Portland, Oregon, Heights

This enables the bush to grow roots on the budded variety, so that it has two sets of roots—one set on the stock and the other on the budded variety. Roses thrive better and produce larger flowers when budded on some strong growing stock. I prefer Manetti, as it is hardy in Oregon, and produces a large quantity of sap, and usually does not send up suckers. Some florists prefer the European dog brier, but it is liable to grow suckers, and these must be carefully removed or they will ruin the budded variety.

While you may plant any well matured plants of the hardier varieties in the fall, do not plant teas at that time, for they are very tender and delicate, and we often have a cold snap in December or January which will kill them if they are not well rooted, and you will simply lose your roses.

A great many of the roses you buy from florists here or in the East are very small plants, with little or no earth about the roots. These should be carefully



MRS. EDWARD MAWLEY

pruned when planted, and if the roots are more than four or five inches long cut those off also to that length, because the nearer the sap roots are to the plant the better the plant thrives. Also cut off all rosebuds on such plants. I know when you get a new variety you are very anxious to see what it is going to do, but blooming is a tax on the vitality of the plant. When it is young and tender, just out of the hothouse, it needs all the vitality that it has in order to grow strong and vigorous. While early blooming will not kill your plants it enfeebles them, and they are liable never to be hardy and strong, just as feeble children are liable to grow into weak men or women.

ONE of the handsomest trade papers that comes to The News is "Better Fruit," published at Hood River, Oregon. It is a model of typographical beauty and contains articles of interest to fruit growers all over the country.—Chicago Packer News.



DUCHESS OF PORTLAND



INCREASING THE VALUE OF THE HOME  
BY HAVING A BEAUTIFUL ROSE GARDEN  
SURROUNDING IT, PORTLAND, OREGON

# THE PORTLAND ROSE SHOW TWELVE YEARS OLD

BY WILLIAM S. SIBSON, PORTLAND, OREGON

IT was in the year 1876 that first I began to take notice of and to develop a keen interest in roses in Portland. We had that year been married, and Mrs. Sibson joined with several friends and neighbors in a club to send East for several collections of roses. They were miserable little hothouse-grown plants that we received, and most of them could not survive the shock of outside planting, and soon perished and died. Still I am sure this adventure first aroused an unexpected interest in roses within me, which must heretofore have lain dormant, but which thereafter grew and developed until my rose garden became a hobby, which occupied a great deal of thought and most of my spare time. Finally, thirty years later, it landed me in the rose business as a life occupation.

At the time I speak of, and later, I secured and studied any literature on the subject that I heard of. In 1883 a friend presented me with "A Book About Roses," by S. Reynolds Hole. This book is a classic—an idyll. In my opinion no book about roses has ever approached the beauty and usefulness of this. Its study added fuel to the fire, and led to the ambition and desire to develop the very best there was to be gotten out of roses through intensive cultivation and continuous care. There were also other lovers of roses in Portland at that time, and much pleasure was obtained from mutual visits to each other's rose gardens, and I am sure the kindly interest, admiration or criticism resulting were to each an incentive to endeavor to attain perfection.

Among these early fanciers were some who still love and cultivate their roses, while others have already passed on to the Elysian gardens. A few names of successful cultivators may be of interest to older residents, and among others the following now occur to me: Professor Bolander, a true and learned lover of all that was beautiful in nature; Mrs. B. Killin, F. V. Holman, Andrew Saling, George Forsythe, Mrs. H. Everding, Mr. Bartell, all of whom have directly or indirectly had a part in the development of the rose in Portland.

While considerable interest was thus displayed in rose culture it was not until the year 1899 that the first real rose show was held. The day was May 21, and the place was the drill hall of the Bishop Scott Academy. This show was given under the auspices of the ladies of Trinity Church, assisted by other ladies of the city, and the affair was a most unqualified success. While the number of exhibits was small compared with more recent shows the splendid size and quality of the flowers displayed had without a question much to do with awakening a general interest in rose culture in Portland. The second rose show was held June 10, 1890. In my scrap book I find a clipping from The Oregonian concerning it, which I quote:

"Prizes were awarded for the best collection of twelve roses, the best collection of six and the best general collection. The second prize was taken by Mrs. W. S. Ladd, and the third by Mrs. H. J. Corbett. A noticeable thing was that the flowers were arranged in exactly the same manner as they are shown in the Royal Horticultural Exhibit at the Crystal Palace in London."

The next rose show was held on June 13, 1891. No show was held in 1892, but on June 21 to 24, 1893, the most ambitious affair so far attempted, was held at the old Exposition Building on Washington Street, under the auspices and patronage of the Oregon State Horticultural Society. Prizes were generously donated by the society to the value of \$500. The Oregonian contained a full report of the affair, and a condensed account was printed in a valuable and popular paper then published in Chicago, entitled, "Gardening." It was edited by William Falconer, who for years was superintendent of the famous Dosoris Gardens, belonging to Mr. Dana, on Long Island, New York. With the following statement was also printed a photograph of one of the prize-winning exhibits at the show; thus were Portland roses already becoming famous:

"The first annual flower show of the Oregon State Horticultural Society was held at the Exposition Building in this city June 21 to 24. The spacious hall was beautifully decorated, and the numerous exhibits and designs of native flora, tuberous and other begonias, sweet peas, pelargoniums, pansies, roses, etc., were enthusiastically admired by some six thousand people. The society offered prizes amounting to \$500. The first day was specially designated for the rose show. Exhibits were made in regulation boxes (three feet nine inches by one foot six inches top measurement), with zinc tubes, moss, etc., and prizes were offered to amateurs for the best twelve, the best six and the best general collection, and to professionals for the best general exhibit. This climate is preeminently adapted for the culture of roses, and the fine display of the choicest exhibition varieties of hybrid remontants in their perfection of color, size and fragrance was a revelation to all, and especially to Eastern visitors."

This was the first and last rose show officially patronized by the Oregon State Horticultural Society. I am sure, however, that it was not for lack of interest, but more probably for lack of means, for the then president of the society, Dr. J. R. Cardwell, was ever a true admirer of the rose, and always willing and anxious to assist in its development and improvement.

Incidentally I repeat that the above show was held on June 21 to 24, 1893. To illustrate the uncertainty and irregularity of the rose blooming season in Portland, I will mention a note I find in my garden book, saying: "The show would have been better five or six days

later," and another remark, "No roses on Decoration Day this year." The latter remark occurs again in 1896. Such conditions would have been very awkward, to say the least, had the date of our rose show been fixed ahead for early June, as it sometimes is these present days.

During the next few years several good rose shows were held, and, as I recollect, always with increasing patronage and success, financially and otherwise. Since the year 1890 the population of the City of Portland has been multiplied by five. Within the same period the number of roses grown in and about the city has increased by millions. How much wealth this development and love of roses has indirectly added to the intrinsic value of her property—how many people it has added to her population, and how much has it tended to the enormous advancements the city has made since the days we speak of—who shall say!

In 1905 came the Lewis and Clark Exposition, and the Rose Show in the Auditorium Building on June 3 of that year will be ever memorable to those who had the good fortune to attend it. The following clipping from the Oregonian of that day will be of interest to many:

"The committee on Rose Day of the Portland Rose Society takes this means of tendering thanks to all those who so ably assisted in making the display an unqualified success.

"It especially desires to thank the press of this city for its generous advertising and free notices of the event; to Theodore Hardee, H. E. Dosch, Oskar Huber and other officials of the exposition for their unvarying courtesy and assistance; to the judges who so ably performed their arduous duties, and to George Otten, under whose direction the Auditorium was transformed into a bower of beauty. The committee also wishes to thank the members of the Rose Society for their untiring assistance in collecting and arranging such masses of roses, and particularly to the multitude of friends who so generously donated their choicest specimens and other flowers. The committee fully appreciated the assistance given by Messrs. Martin & Forbes and Clarke Bros. for the costly and beautiful displays made by them. Finally, thanks are tendered to L. Allen Lewis and W. P. Olds for their kind contribution of the necessary jars for the Rose Show. The committee is composed of William S. Sibson, Mrs. George H. Lamberson, Frederick V. Holman, Mrs. B. Killin and Thomas G. Green."

Since the great event above referred to the Rose Shows of the Portland Rose Society have been made a part of the magnificent entertainment provided annually by the Portland Rose Festival Association. To say these shows have been successful would be scant praise. They have, in reality, been the great

feature of the Rose Festival. At the last show held in June, 1910, three million rose blooms were used in the decorations of the Armory. Roses entered for competition were magnificent in quality, and could not be surpassed for size, beauty and perfection at any rose show in the known world. More than three hundred competitive entries were made. Besides this, the city divided into twelve competitive districts, poured in its thousands of roses from north, east, south and

west. Sixty-four prizes and trophies were awarded, and 75,000 people visited the show.

Everything was conducted on a broad, grand and liberal scale, and, I suppose, never was seen a more charming and enchanting sight than that which greeted visitors to that great rose exhibition last June. It certainly was a scene worthy of Portland, and one that to every mind confirmed and sealed the fact that she is of very truth "Portland, the Rose City."

## LANDSCAPE GARDENING AND THE RURAL HOME

BY PROFESSOR ARTHUR L. PECK, OF J. B. PILKINGTON NURSERY, PORTLAND, OREGON

**T**HOROUGHLY to understand and properly to appreciate landscape gardening one must be familiar with a few of the basic principles of the art, and also know what we mean by the term "landscape gardening" in the first place. It has been defined by a well known writer as the arranging surfaces of land and water, with the forms of vegetation they support, and all such forms of architecture and sculpture that may be thought desirable according to some settled scheme or idea. Landscape gardening is a fine art, and is properly placed with painting, sculpture and architecture. That is a fine art which attempts to create organized beauty, to unite several dissimilar parts into one organized whole.

Granting, then, that any landscape composition may be criticised with reference to rules applicable to the other arts, we would expect to find certain similar artistic qualities in all branches. One of the most important of these qualities is "unity." Unity in a landscape composition means that some one idea shall prevail throughout, and that all details shall be subordinate to it. To attain this unity one must subject all his ideas to one of the two general styles of treatment—known as the "formal" and the "natural." The former is characterized by the presence of the straight lines, geometrical forms, architectural features, plane surfaces and sheared or regular forms of trees and shrubs. It is some-

times called the "geometrical" or "architectural" style. In the "natural" style



Photo by C. C. Hutchins  
EIGHTEEN-MONTHS-OLD PINK RAMBLER  
Town home of C. C. Hutchins, White Salmon  
Washington

we find irregular curved lines, broad, sweeping curves in the surfaces; irregular grouping of trees and shrubs, irregular skylines and the absence of all things which pertain to the architectural. Country homes, surrounded as they are by nature's generous treatment, should be laid out along natural lines. City squares, street parkings, plazas and other limited areas closely associated with large buildings should be treated along formal lines.

With these general principles in mind let us take up the problem of properly arranging the home grounds so that when the work is complete the grounds and the house, taken together, will present to the observer a harmonious, pleasing picture.

The first of all to be considered is the convenient arrangement. The most beautiful home or garden is not good if the convenience of the owner is sacrificed. Drives and walks should be laid out so that they will be useful. They should be direct and have good grades, and if curved that the deviation from the straight line should be justified. This can be done by taking advantage of the natural contours of the ground, or by

plating in such a way that it comes very natural to make a detour around the obstacle. Straight lines are many times justified, and unless distance and other conditions warrant it, should be used.

The foundations of the entire work is the lawn. It should be broad, well graded and well kept in some instances, and should be framed on either side by interesting grouping of foliage. Generally speaking the lawn planting should be carried to the side, or at least related to the border planting, if specimen trees are used. In many farm homes a broad mowing, or meadow, in front of the house is very attractive. In that case the grass should be cropped only in close proximity to the house. The effect of this grouping of foliage on the sides is to frame the home picture and to set off the house to the best possible advantage.

In arranging planting it is worth while for one to study the works of nature. Note the following outline of young fir growths as they creep into the clearings. You will find that line is irregular, deep bays showing here and there, separated by strong, massive projections. Oftentimes there will be an individual or two standing out from these strong masses. The straight line is entirely absent, while the outline of the foliage presents long, graceful curves. In choosing the materials to be used locate the coarser texture of the foliage further from the house, and as you approach the home the shrubs and trees should be finer, and be able to bear a closer inspection. Fine flowering shrubs and vines should be used close to the home, and these serve in a way to tie, or to unite, the building with the grounds. Care should be taken, however, not to plant too heavily around the foundation or the appearance of soundness and stability will be lost, because one can get no idea of the foundation on which the structure rests.



A BASKET OF PANSIES  
Portland, Oregon, grown



A BEAUTIFUL RESIDENCE CORNER  
PORTLAND, OREGON



A MAGNIFICENT SIGHT DURING THE SUMMER IN PORTLAND, OREGON

It is the desire of most men to have their grounds appear as broad and extensive as conditions will allow. Whenever we introduce into the lawn such things as circular flower beds, rose hedges and other forms of brilliant flowering plants we decrease the apparent extent of the area. Locate all herbaceous flowering plants and roses by themselves along the shrubby border, or possibly near the entrance of the vegetable garden. Here they can be well cared for, cut and taken into the house, or allowed to mature and die down without seriously affecting the appearance of the complete picture.

The use of materials is a complicated subject in itself, and time forbids my taking it up in this article. I would like to say, however, a few words in favor of our native plants. The flora of Oregon



ALONG THE FRONT PORCH OF A RESIDENCE PORTLAND, OREGON

is very rich in shrubs and trees of ornamental value. Among these I might mention Oregon grape, red flowering currant, mock orange, red-twigged dogwood, waxberry, mountain spray, nine bark, sweet briar rose, azalea, mountain lilac, rhododendron, madrone, chinquapin, flowering dogwood, hemlock, cascara, numerous conifers and many others. These plants all do well in cultivation and make beautiful specimens, especially when planted quite small.

So much for what can be done in beautifying the home grounds. It is very easy, however, for a lover of plants to seriously overdo the matter. Do not feel that you must have everything you see to which you take a fancy, and in general it is a good thing to avoid what we call "horticultural freaks." We do not want to make a museum of our home grounds.

Things brought into close association should be congruous and kindred in character. Rockeries and rustic work too near the home are hardly logical, one suggesting the wild and the picturesque, the other art and the works of man. The well known tripod and kettle filled with



IN A ROSE GARDEN AT PORTLAND, OREGON

flowers is another example of the incongruous. Sea shells for edging flower beds far removed from the ocean, decaying fir stumps in the midst of a well cared for lawn; iron dogs or stags amidst similar surroundings are other irregularities which one so often sees, and which are much better left out of the composition.

Much has been said with a view to urging amateur landscape gardeners to pay more attention to the arrangement of the trees and shrubs on the home ground; to bring them to the point where they will realize that small compositions require just as much study as large ones, and to encourage those who feel that financial conditions bar them from devel-



HEDGE OF ROSES IN PORTLAND, OREGON

oping attractive home grounds. In bringing these remarks to a close I wish to quote Mrs. Van Rensselaer, one of our most artistic writers on the subject of landscape gardening, presenting for your consideration her idea of the application of the subject under discussion. She says:

"If now we ask when and where we need the fine art of landscape gardening, must not the answer be: Whenever and wherever we touch the surface of the ground and the plants it bears with the wish to produce an organized result that shall please the eye? The name we usually apply to it must not mislead us into thinking that this art is needed only for the creation of broad landscape effects. It is needed wherever we do more than grow plants for the money we may save or gain by them. It does not matter whether we have in mind a great park or a small city square, a large estate or a modest dooryard, we must go about our work in an artistic spirit if we want a good result. Two trees and six shrubs, a scrap of lawn and a dozen flowering plants may form either a beautiful little picture or a hundred disarray of forms and colors."

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Editor Better Fruit:

In the March number of "Better Fruit" appear two articles giving analyses of some Sherwin-Williams arsenate of lead showing approximately 6 per cent arsenic. In each case the arsenate of lead referred to was manufactured early in 1908 in order to try out the value of a strictly basic arsenate of lead. It carries an exceptionally high proportion of lead oxide and was too expensive to market regularly and was uncertain as to its toxic action. The Sherwin-Williams Company never made such a product for sale, but only put it out for experimental work. We regret that your paper is still publishing analyses of material turned out three years ago for experimental purposes, which does not now and never did represent the output of this company's product. We would appreciate your publishing the statement in your valued paper that the Sherwin-Williams Company guarantees its arsenate of lead to contain a minimum of 12½ per cent arsenic oxide. Thanking you for publishing this letter, if you can consistently do so, we remain, yours truly, The Sherwin-Williams Company, Cleveland, Ohio.

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Editor Better Fruit:

Enclosed find one dollar. Don't stop sending "Better Fruit." It is the best ever, and is doing a world of good. I am yours truly, J. E. Dow, Deer Island, Oregon.

# IMPROVING THE SURROUNDINGS OF YOUR HOME

BY PROFESSOR H. F. MAJOR, INSTRUCTOR IN LANDSCAPE GARDENING, UNIVERSITY OF MISSOURI

**T**HAT the average true American delights in clean surroundings and plenty of fresh air is a most pleasing fact. Most of the slothfulness and slovenliness in our country seems to be associated with new inhabitants unused to our customs and ideals.

Our country is large, our institutions are large, our mountains, our streams, our lakes and our fields are the largest in the world, and it is this "bigness" that characterizes the American people with an individuality so different from all other nationalities. Let us, then, nourish and protect this individuality by establishing big and high ideals, and always working toward a bigger and better end. Let us always seek to improve our social and economic conditions.

God has given us a big sky, a big land and a big field to work in and we should maintain it as befits our highest ideals.

It is not necessary that a man should spend a million, a thousand or even a hundred dollars in improving his place if he cannot afford it, but he should be willing and try to make the very most of what he has to do with, and in this way he will be doing the biggest thing that he can do.

Perhaps the first question that arises is, "How large a piece of ground must I have for my yard?" And I say anywhere from a spot forty feet square up to twenty-five acres or more, but never more than you can afford to maintain after you have once developed it.

Some of you are holders of small city properties, but in the main I direct my remarks to the average farmer who can afford to have from one-half to three or four acres of ground about his house. Now, this area is not to be occupied by



WISTERIA

barns, chicken houses and stable yards, but is the ground given over to the lawns, flower gardens and the out-of-door living room that every farmer and every farmer's wife delights in.

I take it for granted you have all made a choice of the land set apart for this purpose and that the house is already located in the lot.

However, let me state an important fact to be considered in the location of the house and something about the style of that house: First, the best exposure is the south and east, and if possible the better rooms—i. e., the living rooms—should face in this direction. Second, these rooms—i. e., the parlor, living room and dining room—should look out upon a wide, open lawn. Third, if your house has a lot of gables, ginger bread fret work under the eaves and around the porch railings and pillars remove them and replace with straight line simple trimmings. Remember that the highest type of refinement and beauty is only possible through simplicity. Fourth, build a good, big, wide sunny porch on the lawn side of the house and another at the kitchen door; cover these porches with roses and Japanese clematis and see what a wonderful improvement is then accomplished.

The improvement of the grounds about the house is not always in putting in a shrub here or a tree there, but more often it consists in cleaning up and knowing what to take out. Too much planting in the yard, sprawling, low-hanging limbs of shade trees and overgrown hedge rows often shut out a beautiful view of a distant green pasture, a gentle stream or a lofty mountain peak.

It is this ability to see from a place and to look toward a place from a dis-

tance that is the secret of a beautiful homestead.

It is an old and true saying that "distance lends enchantment." At the basis of all high class development of out-of-door scenery is, first, simplicity and then extent.

Look out upon your field, your pasture, your distant hills and streams and learn the value of that greatest wealth—the summer sunset—which is all yours.

When you are clearing pastures, woodlands or fields leave scattered here and there an occasional clump of good shade trees to protect the cattle from the heat of summer suns and shelter them in winter from the bleak north winds. Where there is a choice cut out the soft wood trees and leave the nut trees and the good timber. This latter increases very rapidly in value as years go by.

If there are no shade trees near the grounds some should be planted in rows along the road or along the boundary of the yard. Do not plant them in rows in the yard, for this is an orchard style of planting, and one that suggests the economic and the commercial rather than the beautiful. Here trees should be planted in groups of three, five or seven, or occasionally singly where it is desirable to shade a particular spot.

As a general rule shrubs should be planted in clumps or masses along the border of the home grounds and in the rear against the outbuildings. They



COMMON SNOWBALL

Residence of W. Merriman, 304 East Sixteenth Street



CLEMATIS JACKMANII

Residence of W. Merriman, 304 East Sixteenth Street North, Portland, Oregon



BRIDE AND BRIDESMAID  
MARIE VON HOUTTE  
PAPA GONTIER

may also be placed with considerable effect, and they should be so planted, against the foundation of the house and in the corners of the drives and walks. Keep the walks and road on one—the least desirable—side of the lawn. Do not have the yard cut up in small checker-board plats by walks going everywhere, and do not have a walk run all the way around the house, where it always has to be looked at.

Better put your flower bed near the border and not in the middle of the

lawn, where it reminds one of a button sewed on the knee of your trousers—out of place and no reason for it being there. Put it near the shrubbery, where it serves only to add to the decorative value of the frame which surrounds the lawn picture.

Too often grading about a place is overlooked entirely. Grade down the terraces, fill the sink holes and give a gentle, undulating, rolling surface to the lawn that it may more naturally reflect the lights and shadows of the clouds which fly above it.

The native elm, the sugar maple, the walnut, the linden and the oak are our best shade and street trees, while in choosing our shrubbery we should cling to the good, substantial species which have stood by us a hundred years rather than to the horticultural specimens, most of which are freaks and contortions of plant growth, and which attract our attention only through their outlandishness and the high prices attached to them. Why should anyone for a moment desire that upside-down flowerless specimen called Teas' weeping mulberry, which is peddled from door to door by the "tree quack," when for half the price he can enjoy the glory and fragrance of a mock orange or that most splendid of all shrubs, Van Houtte's spiraea, sometimes called bridal wreath.

Don't get discouraged by trying to do everything at once. Would you have your boy become a man in a day? The love you bear him is due to the fact that he has grown up with you, and you have cared for him, and could only see him improve hour by hour and year by year.

So it should be with your yard. Make a plan and carry it out from time to time. Always look forward to your highest ideal. Buy some of the garden magazines. Look at the pictures of comfortable farm homes which have been cared for. See where your own needs changing.

Get in the habit of sending for nursery catalogues and seed catalogues, whether you intend to buy or not.

Do you realize what wonderful flowering effects you can get from five cents' worth of annual flower seeds?

Astors, poppies, phlox drummondii and corn flowers will bloom for you as well as for the millionaire, and probably better. Do not fail to plant some perennials. These plants die down to the ground every winter but come forth with added strength each succeeding year. You will be surprised how fast they multiply, what little care they need and what a wonderful wealth of bloom they will produce. Some of the best to begin with are peonies, phlox, delphinium, lilies and hollyhocks.

Cover the old fence and the wood-house with Virginia creeper and clematis, or with Hall's honeysuckle, and then as you come in from the farm fields the day will look less long and the evening shadows will harbor sweet memories of childhood days, when our grandmothers sat in their rose gardens and planned the hours that made "Home, Sweet Home."



KILLARNEY  
MY MARYLAND  
J. B. CLARK

**OREGON FRUIT MEN ELECT.**—The Rogue River Fruit and Produce Association has elected the following officers and directors to serve for the ensuing year: Colonel R. C. Washburn, Table Rock, president; F. E. Merrick, Medford; C. E. Whisler, Medford; G. A. Hover, Phoenix; R. H. Parsons, Medford; H. E. Gale, Merlin; A. C. Allen, Medford; A. C. Randall, Talent; L. K. Haak, Eagle Point; K. S. Miller, Medford, secretary; C. H. Gillett, Ashland; L. I. Wood, Grants Pass; P. J. O'Gara, Medford; J. W. Merritt, Central Point; C. C. Scott, Phoenix.

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*Editor Better Fruit:*

"Better Fruit" is the best and cheapest fruit magazine in existence. Every fruit grower everywhere should have it. George Heatherbell, Victoria, British Columbia.

# SHRUBS AND WHERE AND HOW TO PLANT THEM

BY W. H. WICKS, HORTICULTURIST, IDAHO

**T**HAT the use of shrubs has been delayed until such a late period in the development of our landscape architecture is unfortunate in many cases. There are many places where their use will change the entire appearance of the environment. Nature has continually hinted to man the advisability of using shrubs in connection with the beautifying of his surroundings. A glance at Figure 1 will illustrate this point very well. It has been said that nature abhors a vacancy. If man does not improve such spaces nature will rapidly do so. It may not always be filled with the kind of plants we especially desire, but nevertheless there is a natural beauty about the same that we cannot help admire. Weeds are plants out of place. In other words, we consider that plant a weed which springs up and interferes with the production of plants more useful to mankind. The charm of shrubs and vines lies in their purely natural adaptation to nooks and corners about buildings, in the borders, about well kept lawns, at the edge of trees and their true sense of quiet and peacefulness (Figure 2). The beginner in plant grouping is apt to make all of his groups alike. This is very easy to do, and can be avoided by the planter having in mind the finished effect before he begins to plant. A background is made up most naturally of trees of various kinds and sizes. In this border many specimens of rough and uncouth growth can be used which do not look uncouth when a judicious planting of shrubbery is made in the foreground. The gardener should bear in mind that plants in the foreground must stand close examination. For this reason special care should be

exercised in their choice. Flowering shrubs and herbaceous plants are especially adapted for use in such places.

Anyone who has attempted to beautify his grounds soon realizes that the use of shrubs plays an immense part in the gen-

erally attracted to the ground line in small areas the place looks bare and unpleasing. Shrubbery allows the landscape gardener to introduce a great variety of form, texture and color in all his work. This materially relieves the openness



Photo by Horticultural Department New Hampshire Agricultural College  
FIGURE 2—WHERE SOME PUBLIC-SPIRITED CITIZENS HAVE CARRIED OUT GOOD IDEAS ON THE USE OF SHRUBBERY

eral composition of the finished whole (Figure 3). It is just as important to improve the ground line in our landscape composition as it is to plant trees to secure a pleasing skyline. If the vision is not arrested and the attention

and crudeness of areas simply planted to trees. A glance at Figure 4 will illustrate this point quite forcibly. This is a reproduction of a small city park. The money expended in flower beds in this park would have purchased a great number of choice shrubs, which, if judiciously used, would make the place very inviting. Almost all the important groups of trees in parks and nature have shrubbery growing at the base. These groups almost invariably contain a good collection of shrubs, and we wonder why our modern parks are so attractive and inviting.

Shrubbery has many specific uses. It affords the most excellent screen to cut off undesirable objects. Most of us have a chicken yard, clothes yard or an unsightly rear fence which we can screen from public view by the use of shrubs. If we have barren places or banks which are inclined to wash shrubs can be used here to great advantage. High foundations, rocky areas and unmanageable corners about buildings are all fit places for the planting of shrubs (Figure 5). Shrubs planted under wide eaves and near buildings have a tendency to tie the building to the green sward. Figure 6 shows a pleasing effect at the base of a public building.

It would be unwise for the writer to mention a number of shrubs for planting and expect the reader to choose only from this list. Shrubs must suit the objects for which they are intended to beautify. The writer thinks no shrub-



FIGURE 1—A HINT FROM NATURE IN THE USE OF SHRUBS  
These plants in their struggle for life have grouped themselves in an artistic manner



Photo by Horticultural Department New Hampshire Agricultural College

FIGURE 3—IN PLANTING ABOUT THE HOME SEE THAT THE SHRUBS ARE ARRANGED FOR PLEASING EFFECTS

bery is more beautiful than that which the planter finds growing wild in his vicinity. First, they are easy to grow and require very little attention. Second, each section of our country should develop in harmony with the natural surroundings. Third, the planter is taking very little risk of failure when these shrubs are properly transferred from their native habitat and grouped about the premises under similar soil and climatic conditions. If the native vegetation is freely planted they readily make the place a part of the region in which we live. It is not intended that the planter limit himself entirely to native shrubbery, but if a certain section seems to require native growth by all means use it, and the effect will be far more pleasing than if the most expensive shrubs had been placed instead. The Western coast is rich in native flora of many kinds.

In all shrubbery planting one should endeavor to secure varieties which furnish the greatest wealth of foliage, blossoms and color throughout the year. It is not difficult for the plant lover to go into the nearby woods and secure those shrubs which appeal to him. The Wild

Currant (*Rubus sanguineum*), which blossoms so early in spring and has a very delicate perfume, should be extensively used in shrubbery planting. The Western Mock Orange (*Philadelphus coronarius*) is another very charming shrub that gives pleasing effects in blossom and perfume in early spring. There are many others. These two have been cited by the writer only to show what really choice shrubs we have at our command, but for the most part are not taking advantage of the full charms



FIGURE 5—BERBERIS VULGARIS

Corners about buildings are sometimes difficult to manage. Try a pleasing shrub

which they offer. Each reader can readily make up a long list of native shrubs which especially appeal to him and can be secured at very small expense.

Of the shrubs that are worthy of planting freely in the West, and can be secured from practically any nursery, the following list is preferred: *Viburnum Lantana*, *Viburnum Opulus*, *Viburnum Plicatum* (snowball and varieties), *Prunus*, including flowering peaches, small growing double flowering cherries, plums, almonds, etc.; *Lonicera Fragrantissima* and *Lonicera Standishii* (honeysuckle), *Chionanthus Virginica* (white fringe, purple fringe) and others of this class; *Spiraea*

*Thunbergi*, *Spiraea Arguta* and *Spiraea Prunifolia* (bridal wreath) and several other early flowering varieties; *Deutzia* (many varieties), Common Barberry (*berberis vulgaris*), Privets, Dogwoods, Weiglas, Hazels, Sumac, Forsythia, *Viridisima* (golden bell), *Cydonia Japonica* (Japan quince), *Syringa Vulgaris* (common lilac). (Figure 7.) These shrubs are all adapted for general purpose planting, and suitable for the main effects if so desired. From this list the planter will find several which especially appeal to him for specimen planting. In all specimen planting, no matter what shrub is used, they should be set where they will show their individuality to best advantage, yet to harmonize with the surroundings under which they are placed. This will make up a finished effect. For example, the *Hydrangea* is a fine special purpose specimen, but should be planted with a background of dark colored shrubs or trees. They should not be scattered here and there, as so commonly noticed.

The greatest satisfaction in shrubs, after all, lies in their healthfulness and vigor. To secure this they should be



FIGURE 6—GOLDEN BELL

Graceful shrubbery gives pleasing effects when planted at the base of large buildings

carefully handled at all times. They respond to good treatment just as readily as any of our plants which we Western people are inclined to prize more highly—for example, the apple. Make the ground rich before they are planted. If they are already planted see that they annually have a good dressing of fine manure in the fall. If applied in spring see that it is well incorporated. A little fertilizer about shrubs is readily noticed. In making a shrubbery border see that it is plowed or spaded as deep as possible with an abundance of good humus making material turned under, such as old



FIGURE 4—A GLIMPSE INTO A CITY PARK  
Shrubs have an important part to play here



FIGURE 7—SYRINGA VULGARIS

This shrub gives a variety of pleasure in early spring with its blossoms and perfume



FIGURE 8—GROUP OF DOGWOOD AND LILAC

Choose shrubs for group planting which give pleasure throughout the year. They should harmonize in color of foliage and blossom

manure and litter of various kinds. The labor or expense will soon be repaid in the increased vigor of the shrubs. In using shrubbery for forming groups plant thick, from two to four feet apart, for you want quick effects (Figure 8). As the shrubs develop they can be thinned out for planting elsewhere. It is not difficult to transfer them. They can be either planted in fall or spring in the Pacific Northwest. For climatic conditions similar to Northern Idaho we prefer spring planting. It is a common practice in some of the parks and large estates in the East to remove certain shrubs quite frequently for several years, for in this way they can do service in a number of places. In regard to pruning shrubbery very little needs to be said. The writer thinks that the most severe pruning should be given when the bushes are being planted. The root system should be cut back at this time, and also the top. Pruning for the first few years after the shrubs are set will aid materially in their thorough establishment. When the shrubs are growing rapidly they are apt to make a slender growth, which in some cases is not always desirable. Annual cutting back has a tendency to correct this. The amateur gardener should always bear in mind that for pruning purposes shrubs may be divided into two classes. First, those which blossom on last year's wood, and, second, those which blossom on the wood of the current season, or new growth. Forsythias, Deutzias and Spiraeas are examples of the first class, while roses (Figure 9), Viburnums and Altheas are good examples of the second class.



FIGURE 9—ROSES

A few well grown bushes add materially to the pleasures of home

Probably the best time for cutting back the shrubs belonging to the first class is after they have finished blossoming. At this time of the year other garden beauties are plentiful enough to occupy the attention. Cutting back at this season will have a tendency to produce a strong, vigorous growth, which is desirable. Heavy cutting back of shrubs while dormant has a tendency to produce wood growth, hence those which belong to class two should be pruned before growth starts. Good pruning requires an insight into the habit of each individual plant, a keen eye, sharp tools, a strong hand and an ideal for which to work. If shrubs are carefully watched each year it should not be necessary to do any heavy cutting. The careful gardener is constantly observing the growth of his shrubs, and delights in pinching out the buds or suckers while they are small (Figure 10). In pruning to form a shrub it is well to cut to an inside bud

FIGURE 10—SYRINGA VULGARIS  
(Common Lilac.) Where the art of pruning has been either lost or forgotten

if you wish an upright growth, or cut to outside buds if you wish a spreading growth.

## HOW TO PLANT HARDY BULBS FOR EARLY BLOOM

**H**ARDY bulbs may be planted as late in the fall as the ground can be worked. This must be true, because the catalogues of most nurserymen agree on the point. But I have planted many thousands of bulbs—in rich soil and

manure; if this comes in contact with the bulbs failure with them is inevitable. Under each bulb set out place a cushion of clean, white sand—half a handful under each.

Many planters advise setting the bulbs from two to four times their depth beneath the surface, but this must never be taken as a hard and fast rule. Lilies, for instance, require a greater depth, and in all cases the deeper the bulbs are set the later the flowers in the spring and, possibly on this account, the better the results.

When the bulbs are planted the addition of a light mulch is beneficial, but winter covering should not be added until the ground has been frozen to a depth of at least an inch. Then spread a blanket of leaves—preferably those from hard-wooded trees—or straw, and let the layer be three or four inches in thickness.

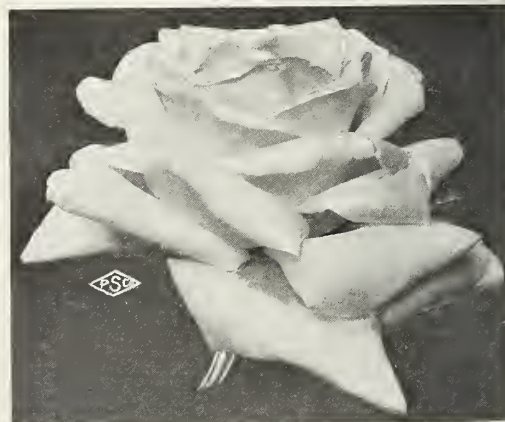
Bulbs may be planted in beds or borders, by themselves or with other plants, generally with hardy perennials or shrubs. They may also be planted—or “naturalized”—in the grass. But in planting them thus avoid regular lines and designs. Confine regularity to formal beds—it has nothing in common



HUGH DICKSON

poor soil—and I have never yet, says a local amateur florist, had the same success with late planted stock that I obtained from that planted earlier. My own rule is to plant the bulbs as early as I can obtain them. Every week of delay means deterioration and, with daffodils especially, there is an absolute loss of strength and vigor when the planting is postponed later than October. My own rule is to plant no narcissi after the end of September.

But whether the Indiana gardener follows this rule or not he may be assured at the outset that success with bulbs demands thorough preparation of the soil in which they are to be planted. As general thing hardy bulbs prefer a light, well drained, moderately rich soil, and this soil should be spaded to at least a depth of fourteen inches. Avoid



FRAU KARL DRUSCHKI

with the practice of "naturalizing." In formal planting do not mix varieties—especially avoid combinations of tulips and narcissi, for example. Limit the formal planting to the use of colors in solid masses, as for instance, crimson tulips in the center surrounded by white tulips on the edges. When naturalizing in the grass use the smaller bulbs rather than the larger, among those best suited for this purpose are the crocus, chinodoxa, snowdrop, scilla, winter aconite and snowflakes. All are cheap and should be planted in liberal quantities.

Usually the hyacinth is allowed first place among hardy bulbs, but in recent years the hyacinth has been losing its popularity. And rightly, too. The position of honor should go to the narcissus, as a matter of fact, and second place should be granted the tulips, while third place should be the lot of the hyacinth. While the colors of the narcissi are confined to a very narrow range of yellow and yellowish white and streaks of red, the hardiness of the bulbs, their quick response to good treatment and their permanence are greatly in their favor. For formal bedding, of course, the tulip and hyacinth must be relied upon, but for all other planting make generous use of the narcissus.

It is almost impossible to say which daffodils are the best for outdoor planting. The Golden Spur is one of the best yellow trumpets, and the Emperor and Glory of Leiden stand in the same class. Among the bi-colors Empress, Victoria and Horsefieldi are the best. In the all-white group select Madame de Graff, Mrs. Thompson and William Goldring. Other desirable varieties are the Bulbocodium, the Maximus, Henry Irving and Major.

Among the incomparable varieties Sir Watkin, with very large petals of a rich sulphur-yellow color and large cup tinged with orange, is one of the best. Others that are good are Stella Superba, Figaro and Cynosure. In the Barril group Conspicuous, with large yellow flowers and bright red-edged crown, is probably

the best for general purposes; it is also the cheapest. In the Leedsii, Mrs. Langtry, with flowers of pale yellow, borne freely and excellent for cutting, is at the head. The two best varieties of the fragrant poet's narcissus are the well known poet's narcissus itself, sometimes called "pheasant's eye," and *N. poeticus ornatus*, which blooms earlier. The most important of the double daffodils are the Van Sion and Sulphur Phoenix.

If I were called upon to designate the best bulb for general planting—the best of all the hardy bulbs—I should select the Darwin tulip. It is only in recent years that its many virtues have become generally known, and it has been a source of much satisfaction to me to note that in the last five years the sales of this wonderful bulb have increased ten fold. It comes into bloom late in May, and the flowers are superior for every purpose—best as cut flowers and best for decorative purposes in the garden. They are borne on stems that are from twenty to thirty inches in length, and they do not deteriorate. Once planted they ask only to be permitted to remain undisturbed until increase makes division advisable, and year after year they produce their splendid blossoms freely and generously. In color and brilliancy of flower, moreover, they surpass all other tulips. It is difficult to select the best, but no garden should be without Ouida, carmine red; Nautica, purplish rose; Kate Greenaway, white and lilac rose; Faust, purple black, and Buffon, rose lilac.

Of the early blooming tulips the best for outdoor planting are: Singles—Artus, dark scarlet; Bell Alliance, bright scarlet; Brutus, scarlet; Rose Grisdelin, the best bright pink; Chrysolora, the best yellow; Canary Bird, yellow; Pottebakker, pure yellow; Pottebakker White, pure white; La Reine, rosy white. Double flowering—La Candeur, pure white; Couronne d'Or, yellow; Duke of York, carmine with white edge; Rex Rubrorum, bright scarlet; Souronne des Roses, deep pink.



IRISH YEWE

At Twenty-second and East Burnside Streets  
Portland, Oregon

The Parrot tulips form an odd and interesting section, but the flowers lack the precision that is the striking characteristic of the tulip. The Parrots, though, are exceedingly effective and always striking when planted in borders.

The best varieties are Admiral of Constantinople, orange red and scarlet; Cramoisie Brilliant, scarlet; Lutea Major, golden yellow; Markgraaf van Baden, golden yellow inside and feathered scarlet, purple and green outside. All bloom in May. Among the best of the May flowering or cottage garden tulips are: Bouton d'Or, golden yellow; Gesneriana Spatulata, the finest scarlet among the tulips; La Nigrette, almost black in color; Maiden Blush or Picotee, blush white; Bridesmaid, cherry rose; La Candeur, white; Firefly, a brilliant orange; Retroflexa, bright yellow.



ENGLISH LAUREL HEDGE

Twenty-third Street, near Everett, Portland, Oregon

## SOME ADVICE ON THE GROWING OF SWEET PEAS

BY RALPH R. ROUTLEDGE, ROUTLEDGE SEED AND FLORAL COMPANY, PORTLAND

THE conditions in the vicinity of Portland are ideal for sweet peas, and the finest flowers in the world can be grown here without any trouble, other than good cultivation and the proper preparation of the soil.

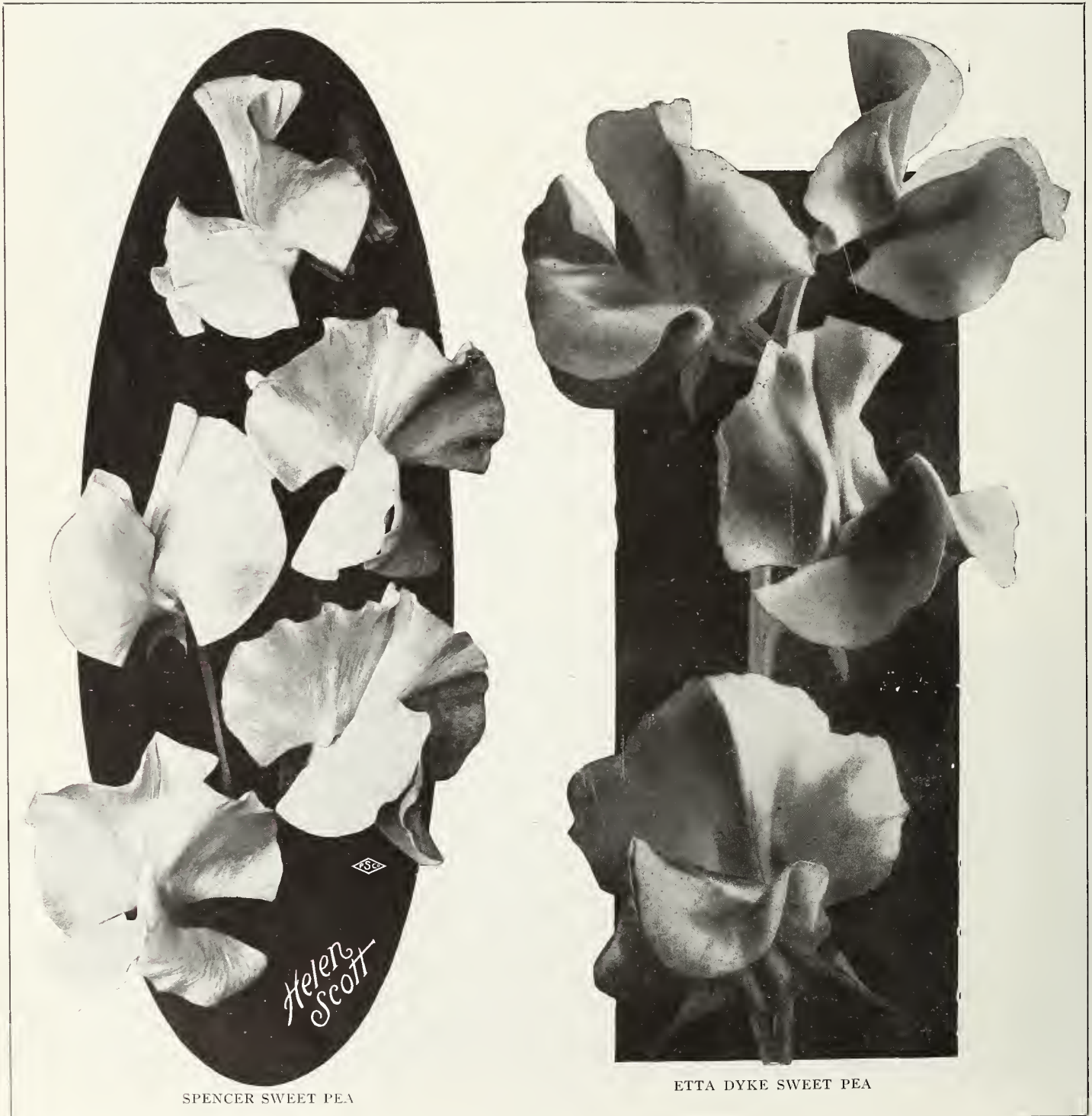
The soil for sweet peas should be rich and deep. A good rich loam, with plenty of well rotted manure in it is the best soil for raising good plants that will produce an abundance of blooms of large size with long stems. Soils that are at all heavy should be turned over in the autumn, and during the winter months given a good dressing of sand, hardwood ashes or air-slaked lime. The ideal bed

is made by digging a trench eighteen inches deep and filling it about two-thirds full of well rotted cow manure, tramped down and covered with very good soil.

Sweet peas do best in a position exposed to sunlight, at least part of the day, although a partial shade during the hottest part of the day is very essential to secure the best color in the orange and lavender shades.

Much depends on the state of the weather as to when the seed may be sown out-of-doors; but they should be sown as early in the season as the ground can be worked. For very early flowers

late fall planting is advisable, but the ground must be well drained or the seeds will rot. Whether you have prepared a special bed or not it is best to plant the seed in a furrow about six inches deep. Sow the ordinary seed thickly, and the "Spencers" more sparingly, for the new "Spencers" are robust growers and do best if not crowded. Cover the seed with about an inch of soil, pressing it down lightly. As soon as they are above ground two or three inches thin out to two inches apart ("Spencer" varieties four to six inches); if they are closer than this they do not usually attain their full development. As soon as the plants are about a foot high the rest of the soil may be filled in the trench.



*Helen  
Scott*

SPENCER SWEET PEA

ETTA DYKE SWEET PEA

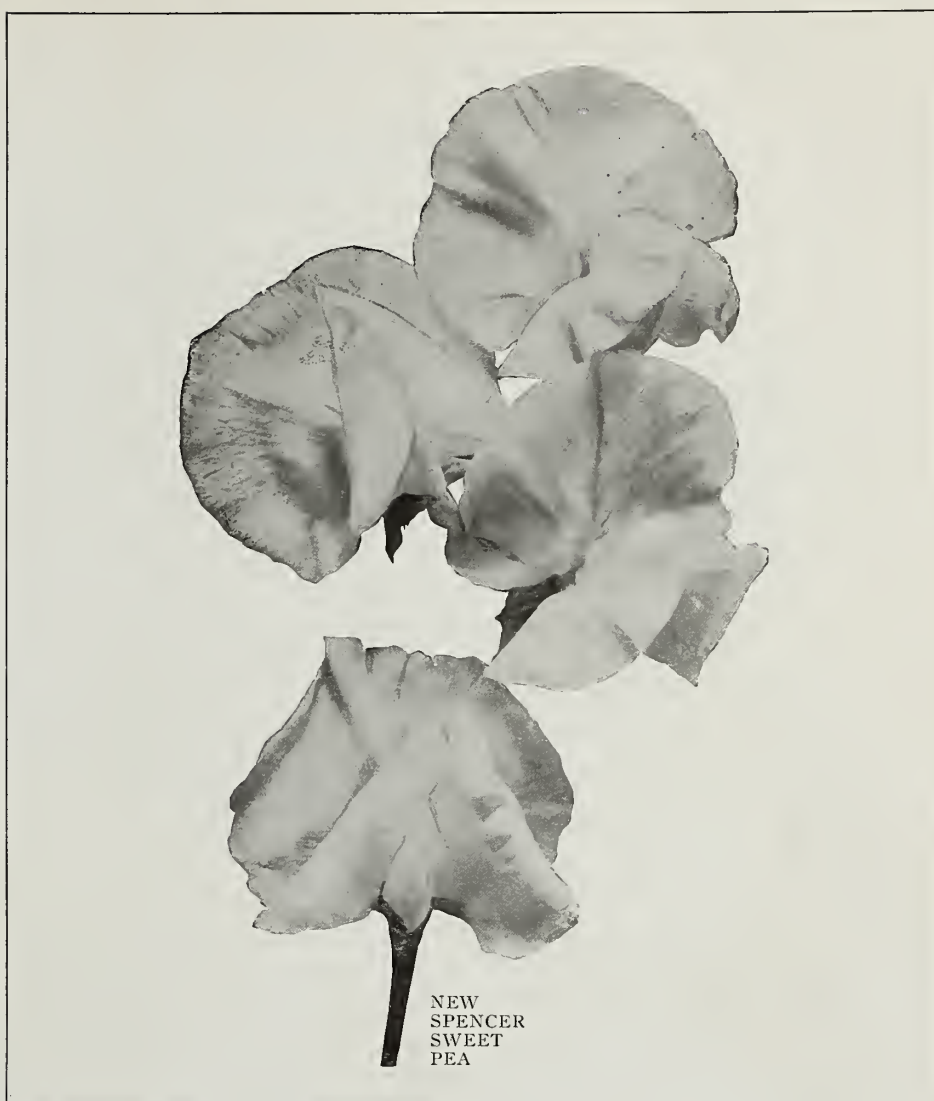
They should be staked up either with branches of brush, stout stakes on which wire netting has been fastened or trellises of string. These should be at least five feet high, and six feet is better. It is advisable to put up the trellis before planting, and then a double row of seeds (one on each side) may be planted.

During the dry weather they should be watered thoroughly and frequently at the root, not on the vines and flowers, and given an application of some quick-acting fertilizer when buds appear. A mulch, or rakings from the lawn, will be found beneficial during hot weather. The flowers should be cut as often as possible, and all withered blooms should be removed to prevent the plants from running to seed, which would stop them from continuing in bloom. When picking nip off the faded blooms, even though you leave the stems; it is little trouble, and this will keep the seed pods off.

Sweet peas should not be grown on the same soil two or three years in succession. In some gardens there is just one spot where it is convenient to have them, in which case the soil, to the extent of a foot wide and deep, should be removed and replaced with new soil from another part of the garden.

If sweet peas should be attacked by the green, black or white fly they should be thoroughly sprayed with some reliable nicotine preparation.

The greatest enemy of young sweet peas is the cut-worm or slugs, and in certain places they are so destructive as to almost prevent some growers from having a good stand of sweet peas at any time. They usually eat off the young shoots as soon as they appear. There are several prepared powders, sold by the seed stores, but a very effective remedy and one that any one can get is "soot"—clean your stove pipe. It will do the pipe good and keep away slugs if worked into the top soil at planting time or



NEW  
SPENCER  
SWEET  
PEA

sprinkled over the young plants. Lime, ashes and tobacco dust are used by many, but they are not always effective.

The Oregon Sweet Pea Society has lately been organized by Captain George Pope, and all lovers of sweet peas should join hands and make the coming Sweet Pea Show a grand success. The show will probably be held the latter part of June or first of July.

Sweet peas are undoubtedly the most popular annual flower to date, and it is not to be wondered at, for there is no flower that will give such a profusion of fine blooms for cutting with as little care. The new "Spencer" types are the latest, and well worth the difference in price. Those who have tried the true "New Spencers" will never be satisfied again with the old types.

The flowers of this new type come three and four on stems twelve to eighteen inches long, and are not only of extremely large size, but are distinct in having the outer edges of the standard and wings beautifully ruffled or waved; the tissue being so full that there is not room for it to lie flatly expanded or smoothly rolled. By reason of its "sportive character" it has required years of labor to perfect the original "Countess," but this same tendency "to break" has resulted in giving us a number of colors which already come true from seed, and

which delight every lover of sweet peas who can afford to buy them. While most profuse in flowering they are very shy seeders, and the true "Spencer" type can never be produced cheaply.

This new giant wavy type of flower originated in the garden of the Countess Spencer, Althorp Park, Northhampton, England, and was named after the countess. The original flower was pink, but now we have all the leading colors and shades, and they are truly magnificent. On account of the sportive tendency of this new race and the rapidity with which new named varieties have been introduced, there is some confusion and duplication. I believe many of the same colors are being offered under more than one name—not purposely, but unknowingly. However, this will soon be overcome, for the field test, shows, etc., will soon eliminate the inferior ones and verify the true ones.

Do not be discouraged by past failures in the growing of this beautiful and fragrant flower. A little care in the selection of seed and in planting, then when the blossoms come clip them daily, and you will be rewarded by a continuous and generous supply of flowers, lasting well into the fall season, that will afford pleasure to every member of your household.



SPANISH BROOM

Grounds of residence of Dr. Jones, Portland, Oregon

# LAYING OUT AND BEAUTIFYING HOME GROUNDS

BY ARTHUR L. PECK, OF J. B. PINKINGTON NURSERY, PORTLAND, OREGON

**N**OWHERE in the United States is there an area that lends itself more readily to the art of the enthusiastic lover of ornamental plants. The climate is such that we are enabled to draw upon a wide range of materials and to bring about results that are great sources of pride and gratification. The Northwest is rapidly being peopled with progressive Easterners, and they bring with them the desire for the best in all things, whether it be orchard land, a farm home or the fruit growers' paper that periodically comes to their abode. Naturally this longing for better things will be extended to the lawn or mere yard which surrounds the home, and it is for these men that a few hints are presented in this brief article with the hope that higher ideals in home decoration may be attained as each year's improvements are added to those that have been previously developed. Volumes have been written with a view to setting forth the value of a proper design in the home lawn. We are all inclined to agree with these writers, and many of us are inclined to carry out the suggested improvements if the way is simply made clear.

What is known as the natural style must be adopted in carrying out nearly all of the designs for the rural home. The great expanse of country everywhere apparent, broad meadows, mountains, great forests and natural water courses, force us to treat the home grounds in a manner somewhat after nature's methods if we wish to produce an harmonious composition. Graceful,

irregular curves in walks, drives and surfaces, irregular masses of foliage, broken and curving sky lines and an absence of all geometrical lines should characterize our home grounds. The house is, of course, architectural, or we will assume it to be. The lines near the buildings, then, may properly be made to take on a formal character, and if a straight line seems to be the simplest treatment of a walk one is justified in so laying it out. The usual conception of the natural style may be expressed by the term, "copying nature." This, in a measure, is incorrect, because in almost every instance we improve on nature's work, or at least so guide her efforts that the result may present a picture with a little more of the polish and the beautiful in it than if she were to work unaided. In other words, we attempt to express in a limited and refined manner the same ideas which nature spreads before us, but in so doing we are controlled by our inability to take advantage of the unlimited scale with which she works, and so our creations must bear a much closer inspection.

A plan of some kind is the first important consideration—no matter how simple the work is one should draw up a design before carrying out any improvements. This plan should locate all buildings, drives, walks and plantings. Perhaps the idea may seem somewhat formidable at first, but anyone can draw a diagram, and if a foot rule is handy by all means draw it to scale. In locating buildings consider first of all the conditions which affect health. This

would include drainage, exposure, prevailing winds, water supply, relation of barn to house and the average amount of sunshine. Next comes convenience; without it landscape beauty becomes a nuisance, and we will always have these inconvenient objects confronting us. Human nature is the same the world over, and if we try to carry one too far out of his way he is going to cut across, even at the expense of a good lawn. A house may be a model so far as the architecture is concerned, but we all know that if the arrangement is such as to be inconvenient the whole is a failure. So in laying out the drive, in locating the buildings and in all plantings the idea of convenience should hold a very prominent place. The vegetable garden should also be located with this idea in mind, so that one can easily reach it from the house and farm buildings. A small tract of land it is, to be sure, but from it we obtain a great many of the things that help to make country life what it is. One should plan to work it at odd times, and if he does this it must necessarily be located near the executive center of the farm.

One of the most serious questions is the location of the drive. Many conditions bear upon this problem, and they must all be carefully considered. What kind of traffic must it carry; is it a combination drive and service road; does it swing too close to the house on the way to the barn; can supplies be easily taken from the wagon to the house; what are the topographical conditions along the drives; these are a few of the questions



PRIVET HEDGE

Nineteenth Street, between Lovejoy and Marshall, Portland, Oregon



SECTIONAL VIEW OF J. B. PILKINGTON'S NURSERY, PORTLAND, OREGON  
Colorado Blue Spruces and other Conifers

one must answer before the road can be permanently located. The curving of a drive to make it attractive seems to have taken a firm hold. This is a mistaken idea, however, unless other conditions warrant the curve. Man naturally desires to "get there," and to be forced around a long detour simply because the road curves is very irksome. Every curve should be justified. We do not hesitate to turn aside for some obstacle, and various features may be introduced to make our curves justifiable. A clump of trees, a large mass of shrubbery, extra fine views, irregularities in the contour and the manner in which the entrance is made may be used in relation to our drive. An appreciation for the size or importance of the obstacle must be shown, however. For instance, it would be hard to imagine one turning very far aside to avoid a small flower bed stuck full of nasturtiums and alyssum. On the other hand, a fine clump of oaks or maples would turn us aside without a single question arising in our minds; in fact the action would be the most natural thing in the world, and one would never object to the detour.

It would seem unnecessary to urge the importance of a good surface, easy grades and perfect drainage in the wake of all that has been said advocating good roads. These are matters, however, that should be carefully considered and thoroughly worked out by the one who is developing his home grounds. Walks naturally present problems that are very similar to those associated with drives. They should be located where they are necessary, but care should be taken that

they do not cut the lawn up to any great extent.

The foundation work taken care of, it is then time to plant with a view to setting off the home grounds, and to so frame them that they will present an attractive picture. Here the art of the planter can be given full play. If the natural style has been adopted the planting should present an irregular outline along the edge of the lawn and the sky line should be broken here and there by a small tree rearing its head above the rest of the surrounding shrubbery. In general it may be said that a broad lawn should be the principle feature with the exception of the home itself. Let the general impression be that the center is all open. Carry most of the planting to the borders, and if specimen trees or plants are to be used they should be supported by these border masses. A great many mistakes are made in what is known as mass planting because the planter often lacks the boldness or the means to obtain shrubs and trees in sufficient quantities to produce the desired effect. To overcome this trouble one might plant only a small portion of the border at a time. The value of a plan, then, becomes apparent because every improvement, however modest, can be made in a permanent manner, and after a few years we will find the original idea well rounded out and fully developed.

The subject of plant materials is very broad, and one which should be treated by itself. In general, however, it can be said that all the species used should appear to be at home amidst their sur-

roundings. Plants used because they are rare, exotic or grotesque have no place in the lawn around a rural home.

Rare plants may be of such a character that they may be used, especially in close proximity to the home, but one should strive to introduce sorts that attract because of their own natural beauty rather than because of some freakish habit the plant happens to possess. We should guard against making our home grounds into a horticultural museum. It is desirable to have a considerable amount of shrubbery around the house or near to it, as it serves the purpose of setting or uniting the home to the grounds, and this material must be carefully chosen because it is to be in a location where it must bear very close inspection. The plants should be perfect and the character of the foliage fine rather than verging on coarseness. It will be readily seen that some shrubs which produce beautiful effects at a distance of one hundred feet would be out of place if used ten or fifteen feet from a view point. On the other hand, many shrubs can be used in both situations, and with equally pleasing results.

A fair knowledge of these materials must be gained before one can carry out the best work, but if there is the desire to do one need not be held back because of this lack of acquaintance with plant materials. Careful study of the best catalogues and a close observation of what others are doing will soon place one where he can work out his own planting plan and proceed with the development of his home grounds.



OREGON GRAPE BORDER  
Twenty-second and Everett Streets, Portland, Oregon

## CARE OF ORNAMENTAL TREES AND SHRUBBERY

BY GEORGE C. ROEDING, FANCHER CREEK NURSERY, FRESNO, CALIFORNIA

**N**O country in the world offers better natural advantages for the grower of ornamental trees and shrubs than California. With a variety of climates embraced in a limited area from the torrid heat of the Colorado desert to the balmy and equable climate of the southern coast counties, thence extending to the far northern counties, with their abundant supply of rainfall during the winter months, and where the temperature never goes above 70 degrees Fahrenheit, conditions prevail in which nearly every variety of tree or plant from the temperate, sub-tropical and tropical zones finds surroundings and soils conducive to successful culture.

California people are lovers of trees, and are becoming impressed with the advantages which nature has bestowed upon them so bountifully, hence there is a steady and increasing demand for the very best that can be obtained in ornamental stock.

If there is any one thing which adds to the beauty of a home, be it in the country or the city, it is attractive grounds. No farm can afford to be without a few trees and shrubs around the house, and it seems strange indeed that ornamental planting is not more observed by those who wish to make life in the country worth while. Money expended in this direction is well invested, not only from the fact of its creating pleasant surroundings, but because the beautifying of a place enhances its value and renders it salable, often at a handsome advance. Money cannot buy the satisfaction which one derives from the realization of watching the growth and development of ornamental vegetation.

A grave mistake made by many people is to plant haphazard without any prescribed plan, with the result that when the plants reach maturity they appear to

be out of place simply because they were not planted in a suitable environment to begin with. It is an easy matter to draw a rough sketch to a scale for modest ground, which should be submitted with data as to area, soil, climatic conditions, etc., to some competent person to

make a selection of plants. Instances have been observed where thousands of dollars have been expended in an attempt to beautify extensive grounds, which, when acquiring age, possessed nothing to commend them to one's sense of the beautiful in plant life, simply because the planting had been done without a defined plan. Many handsome specimens, not being in harmony, were lost sight of entirely. It is not so much the plants themselves which add to the beauty and picturesqueness of a garden as it is the grouping of them to obtain results. In order to secure this a landscape gardener pictures in his mind the effect of his groups many years in the future, and his plans are drawn accordingly. Imitate nature, avoid having small beds with narrow walks with not enough of any one thing to bring out pleasing effects. Have a few open spaces planted to grass and obstruct the views of undesirable objects with tall growing shrubs and trees.

It will repay the intending home-maker who proposes to plant extensive grounds to engage a competent man to draw the plans and select the plants. It is just as important to do this as it is to engage an architect to draw plans for a house.

All varieties of deciduous trees should be planted in the dormant season, from January to April, just as soon as sufficient rain has fallen to soften up the ground so that large enough holes can be dug to receive the roots readily. Evergreens transplant best from February to May, and in localities where there



HIMALAYAN CEDAR (CEDRUS DEODARO)  
Twenty-third Street, between Everett and Flanders, Portland, Oregon  
North, Portland, Oregon



CUT-LEAF JAPAN MAPLE  
Specimen in grounds of North Pacific Sanatorium, Portland, Oregon

are not great extremes of heat during the summer months planting may be done as late as June. Palms can be safely transplanted from September until June of the following year, but to successfully grow them during the winter months they should never be dug fresh out of the ground from December to February, as they are dormant at that season of the year and will invariably "go back."

No matter how carefully a deciduous tree is taken up there are always some roots which will be bruised or broken, and these should be cut off to smooth, sound wood. All other roots should have a fresh cut made on them and shortened in so they will fit into the holes readily without doubling up. Before planting the ground should be thoroughly powdered or spaded and the holes should be dug sufficiently large to accommodate the roots without cramping. Far better to dig the holes too large and fill in with surface soil than to err by having them too small. It is a safe rule to set the trees a few inches deeper than they stood in the rows at the nursery.

Evergreens and palms are always taken up with a ball of earth and should be handled with care so as not to break the ball. In planting the rope used in tying the sacking to the ball should be cut, but the sack can remain or be allowed to drop to the bottom of the hole. The earth around deciduous trees should be well tramped, and in the case of evergreens it should be well tamped with a bar; avoid at all times tramping on the ball itself, as this will cause the soil to fall away, frustrating the very object of making the ball to begin with. After planting water freely, and the following day draw loose soil around the tree, filling up the basin left for watering. In the case of deciduous trees of any size

no water at all will be required if it rains occasionally during the dormant period and the ground around the tree is well settled until the growing season sets in, when not less than ten gallons should be given to a tree at intervals of three weeks apart. With evergreens proper precautions should be taken to retain the moisture in the ball of earth, and it will be necessary to water more frequently. This can be determined by digging down and feeling the ball; if it is dry and hard water should be given immediately and be applied often enough to prevent a repetition of this condition.

Never place manure or fertilizer of any kind in the hole, as the young and tender roots will be killed and the plant otherwise injured, sometimes fatally.

The cause of many trees failing to grow or start as early in the spring as they should is directly traceable in many instances to the planter failing to cut his trees back. In taking up a tree from the nursery, at the very best calculation, three-quarters of its roots are sacrificed, so that top-pruning is just as important, or even more so, than root pruning to insure the life of the trees to begin with and promote a satisfactory growth during the growing season. Not more than five lateral branches should be allowed to remain, the lowest should not be closer than six feet from the ground and the highest nine feet. These branches should have two-thirds of their growth cut off at the very outside. Trees which were originally eighteen to twenty feet high, or even higher, should be cut back to at least ten feet from the ground when set, and smaller trees to eight feet.

Evergreens, and especially conifers, should have their branches shortened in, starting in at the base cutting away one-third of the growth up to the top. When completed the shape of the tree should

resemble in appearance the outline of an acute triangle.

Other varieties should have branches shortened and thinned out to secure good form. This pruning is necessary to reduce the amount of foliage, lessen evaporation and to reduce the growth so that the remaining roots can retain life in the plant until such a time as it begins to develop, when root and top will grow in a corresponding ratio.

Trees of all kinds require careful attention the first season after planting. The soil should be kept normally moist, and after each irrigation well worked with a hoe or spade. In the hot interior valleys, where the heat is intense, partial shading by building a skeleton frame and covering with burlap will do much to insure evergreens growing and becoming established.

Standard deciduous trees branching six to eight feet from the ground should have their bodies wrapped with burlap or paper the first and second years to prevent sunburn.

In pruning trees and shrubs should be allowed to assume a natural form as far as possible. Nothing is more hideous than to see trees pruned to assume shapes and forms entirely foreign to them. The individuality of trees is what renders a pleasing feature to our landscapes and makes them appeal to every lover of nature. In pruning the predominating idea should be to retain the natural shape of the tree. Cut off straggling branches, thin out the head where it becomes too dense and remove all dead wood. This applies to deciduous trees. In coniferous trees the branches should be allowed to touch the ground, removing none, except in such instances where there are two parallel leaders, when the weaker one should be cut out.

## NEAT AND ATTRACTIVE PACKAGES SELL GOODS

**T**HE MODERN WAY of marketing goods is the "trade-mark" and the package way. The trade-mark is essentially nothing more or less than an identification, so that if you like the goods you can purchase them a second and a third time, and thereafter, and know you are getting the same brand.

The package serves not only as a carrier of the trade-mark and the container for the goods, but it is the buyers' protection, as it insures cleanliness and sanitary packing.

The commonest things of every-day consumption are now being sold in packages.

The farmers formerly brought butter to town in crocks and traded it for gro-



ceries. Now it is put up in the creamery in squares, wrapped in parchment paper and sold under a trade-mark.

The quality is uniform and a demand grows for certain brands. Is there anyone who will say the dairying industry is not in a better condition today than before the introduction of the trade-mark and package idea which revolutionized the butter business?

The manufacturer or packer of a trade-mark package must keep the quality of his brand up to the mark, else he will fall behind in the race. He must improve it if he can, else his competitor will out-distance him. Such rivalry is desirable and gives the consumer the best value for his money.

The manufacturer or packer of a trade-marked brand of merchandise can create a demand for his commodity by advertising it to the consumer, and the dealer cannot stop handling it at will. Just as long as he keeps up the demand he is sure of a sale.

His safety lies in maintaining the quality of his brand, and he will know that it reaches the consumer as it leaves the factory or packing house—without being tampered with—without becoming contaminated by handling with unclean hands.

Twenty-five years ago who would have said the humble codfish would ever be sold in a neat little package with a trade-mark? Who would have expected to buy cube sugar in a lithographed carton; milk or cream in a tin; rice in a box; cream cheese in a tinfoil, trade-marked package, or a little wooden box with a label?

The pig, but a few years ago, yielded ham and bacon and lard and sausage. Today he yields a score or more of articles, sold under trade-marks, in cartons, tin and glass.

The packer or grower of apples uses the modern way and puts up his fruit in a package which bears his own trade-mark, and which keeps the apples in good condition and makes it convenient for the buyer to carry the package home.

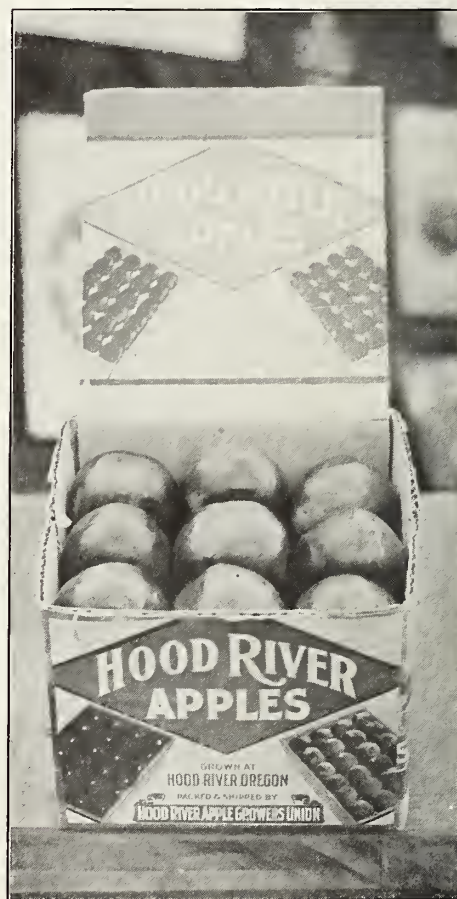
Pack your apples in "Rulofson's Corrugated Cardboard Boxes."

Many a person would carry home a box of fruit who would not carry a paper bag. The bag is inconvenient to carry. The thought of the bag leaves the fruit unsold. In a neat box the inducement to buy is increased. If the fruit is good and some is wanted the buyer knows what brand to ask for. For further information concerning this package write to A. C. Rulofson Company, Monadnock Building, San Francisco.

[Editor's Note.—The editor saw this package for the first time at the Spokane National Apple Show in 1909, and was so impressed with it that he secured some photographs, from which he had cuts made, publishing a special article about this corrugated box for packing fruit, which was illustrated on page 48 of the July edition, 1910. Most of the subscribers of "Better Fruit" know that the editor was reared in the fruit business in California, and has been engaged in the fruit business in Hood River Valley for eight years, being manager of the Hood River Fruit Growers' Union for six years and of the Apple Growers' Union for three years, and continually a director of same, consequently has had a splendid opportunity for studying the marketing problem of the fruit business, and during these several years has interviewed and discussed the marketing problem with probably several hundred Eastern dealers. The editor was so impressed with the value of this package that in his address before the Western Fruit Jobbers' Association at Sacramento, California, the following extract was included: "Gentlemen—If you want to do more business you must endeavor to increase consumption, and, I think, by creating a sale for apples by the box will assist in doing it. Some package should be perfected not only for apples and oranges, but for other fruits that would contain a small quantity neatly done up and ready for the purchaser. I believe we need, and should have, a package that would hold a dozen apples, a dozen oranges or a dozen of some other fruit, and such packages should be made of a size and shape so that six, eight or ten might be put in an ordinary sized case. Mr. A. C. Rulofson, Monadnock Building, San Francisco, has invented a small package which bids fair to be an important factor for increasing the retail sale of apples. The paper bag is a very inconvenient package in which to carry home a dozen apples, particularly if you get into a crowded street car and hang

on to the strap. You know the bag will burst and, therefore, you won't buy the dozen apples. The package made by Mr. Rulofson is composed of corrugated paper, holds a dozen apples and is supplied with a small, neat wooden handle similar to the ones used on shawl straps. It is a very convenient package and one which the retail fruit dealer can have ready for immediate delivery, and one that will not go to pieces, and the customer can conveniently carry it in the crowded street car or anywhere else."

There were several hundred fruit dealers present at this meeting, and the editor conversed with a large number afterwards who enthusiastically indorsed the suggestion. It is needless to say that the wholesale and retail fruit dealer will welcome with open arms such a package. The consumer, who is carrying his fruit in a paper or basket will probably be more enthusiastic than anyone else. The customer wants just this kind of a package, and just such a package is necessary to increase sales. Growers know how to grow good fruit. The marketing of it is a problem with the fruit grower today, and any package that will help increase sales should be adopted. It is the duty of every fruit grower to do everything in his power to help increase sales for his own good. It is believed by those who have seen this package that it would be an assistance in doing it and, therefore, every fruit grower should order a moderate sized quantity of them for this season and watch closely the result, which it is believed without any doubt will be a great factor in increasing consumption.]



# HOW TO COMBAT WITH THE PEACH TREE BORER

BY J. P. GREEN, OREGON AGRICULTURAL COLLEGE

ONE of America's most noted peach growers, J. H. Hale, of Connecticut, has said: "The peach borer has killed more trees than all other causes combined." Comparatively few peach trees planted east of the Mississippi River in the last twenty-five years have lived to produce a crop without suffering more or less from this dreaded insect. The peach tree borer has ranked as one of the standard and serious pests of the United States for nearly a century. It has been the subject of much discussion in the agricultural literature during that time, and it is probable that more schemes for its control have been devised than for any other of our many insect pests.

Yet in all this time there were few thorough and scientific experiments to determine the efficiency of any of these methods. This led Professor Comstock, of New York, to plan, several years ago, a series of experiments to test the so-called remedies; and he had an orchard of nearly 400 trees planted for this sole purpose.

The peach tree borer is a native of America, being found only in the United States and Canada. The peach tree is a foreign plant, but had doubtless been in cultivation for a century or more before any mention was made of its being attacked by the borer in this country. Probably the first reference to this insect is that of Peter Kalm, June 15, 1749, in his "Travels Into North America," when he mentioned its appearance near Albany, New York; and a hundred and fifty years ago it had become a serious menace to the peach industry. In the years 1800-12 it became a serious pest in New Jersey, Pennsylvania and Virginia; in 1823 it was common in Massachusetts and North Carolina; by 1850 it had become quite common in all peach orchards from the Atlantic Coast to the Mississippi River, and by 1871 had attained a similar reputation in Canada. At present it has to be combated by nearly every successful peach grower in the states east of the Rocky Mountains. Apparently it has not yet established itself on the Pacific Coast, and occurs west of the Rocky Mountains only in Colorado, and possibly in New Mexico.

In Oregon Bulletin No. 45, 1897, pages 100-107, there is a good discussion of the Oregon peach and prune borer, supposed to be *Sanninoidea exitiosa*, but specimens submitted to Washington authorities (according to Professor Slingerland) show that the Oregon species is opalescens, thus there is yet no definite evidence that *exitiosa* occurs in Oregon. Professor Cordley says in the bulletin: "This insect, which promises to be one of the very worst insect enemies of the prune, is the well known Eastern peach tree borer. It was described by Thomas Say nearly seventy-five years ago under the name *Aegeria exitiosa*. Several years ago the species was transferred to the genus *Sannina*, since when it has been known as *Sannina exitiosa*. Recently, however, Mr. Beutenmuller, who is mak-

ing a critical study of North American Sesiidae, has concluded that the species should form the type of a new genus, *Sanninoidea*, so that henceforth this insect will probably be known scientifically as *Sanninoidea exitiosa* (Say). The peach tree borer was probably introduced into Oregon about 1880, first appearing near Salem. It is presumed that it came in trees from Eastern nurseries. At the time of this bulletin it was considered one of the worst pests with which Oregon orchardists had to contend; and, in addition to peach trees, cherry and plum trees sometimes suffer from their attacks.

In 1823 specimens of the moth of the peach tree borer were submitted to Thomas Say, of Philadelphia, and he named and described them as *exitiosa*, the specific name by which the insect is now known the world over.

The insect was popularly known as the "peach worm" or the "peach tree insect" in earlier writings. Some time prior to 1850 it had received the name of "peach tree borer," and usually under this popular name it has since been discussed. Almost every peach grower east of the Rocky Mountains under-

which hatches the larva or "borer," which, when full grown, enters the pupal stage, and from which the adult or moth form of the insect emerges.

When full grown the larva is very light yellow in color, a worm-like creature about an inch long, and in addition to its six well developed thoracic legs it has five pairs of pro-legs, one each on the third, fourth, fifth, sixth and last abdominal segments. The head is of a shiny, dark reddish brown color, with its strong mandibles or jaws nearly black. The spiracles or breathing holes along each side of the body are nearly circular and dark brown in color, with a black border.

The adult form or parent of the peach tree borer is a moth, which belongs in the family known as the clear-winged moths, many of which resemble bees or wasps in appearance more than they do ordinary moths. The male and female moths differ so strikingly in appearance that one often wonders if they can be the same species. The general color of the male moth is a deep steel-blue with a glossy luster like satin, the four wings are transparent and glass-like with a light tinge of smoky yellow. The female moths are a little larger than the male moths, their wings are wholly of a deep steel-blue color with a satiny luster, except a broad orange-colored band extending nearly around the abdomen on the fourth, or on both the fourth and fifth segments. The front wings are opaque, being entirely covered with the deep blue scales, while the hind wings are transparent over about one-half of their area.

The peach tree borer apparently has a decided preference for the peach tree, as no other plant is so often or so seriously attacked. But the insect does not confine itself to the peach, having been found on the cherry, plum, nectarine, apricot, flowering almond and the azalea.

The "borer" or caterpillar probably never leaves the tree upon which the egg is deposited on the bark, and the insect spends nearly eleven months of its yearly life-cycle on or in the tree. Thus it can easily be transported for long distances on infested trees, and while this is doubtless the way in which it usually reaches new localities. As large peach trees are rarely moved the growers of nursery stock are mostly responsible for the introduction of the insect into new localities. It is one of the most serious of the insect pests that are now being sent out by nurserymen. When the pest once gets a foothold in an orchard or locality it may be slowly distributed from orchard to orchard by the adult insects or moths, which fly readily, but apparently not for very long distances.

The borers often kill young trees by girdling them with their burrows just beneath the bark underground, and thus rendering their destructive work very inconspicuous. Those trees that survive the attacks of the borer are usually easily recognized by their weakened,



PEACH TREES PROTECTED BY WIRE SCREEN AND BANDAGED WITH PAPER

(After Slingerland, Bulletin No. 176, Cornell Experiment Station)

stands what insect is referred to as the "peach tree borer." However, the peach tree borer of the Pacific Coast states is a different kind of insect, bearing the scientific name *Sanninoidea opalescens*. Probably when *exitiosa* reaches these states it will be known as the Eastern peach tree borer in order to make a distinction between the two species.

Most peach growers have seen this insect in its destructive or "borer" stage, and doubtless but few ever saw it in any other form. The peach tree borer, like all other species of the order Lepidoptera, undergoes complete metamorphosis, beginning life as an egg, from

sickly appearance when compared with perfectly healthy trees. Even if the tree does survive and bear a certain amount of fruit the work of the borer weakens the tree more or less, the damage done depending much upon the age of the tree and whether it has received proper care.

The work of the borer always causes the tree to exude a large amount of a mucilaginous substance, which forms a gummy mass around the infested portion, this mass often being visible on the surface of the soil, about the base of the tree. On plum and prune trees there is very little of the exudation, thus making it more difficult to find the borers and harder to combat them in these trees.

The peach tree borer undergoes a complete metamorphosis in its life history, passing through the four stages—egg, "borer" or larva, pupa and the adult or moth.

The borer always passes the winter in the larval stage. In the South they are nearly full grown before hibernating, while in the North they are quite small at the time of hibernation, some being little more than half grown. However, in most localities it is possible to find borers of all sizes in the trees during the winter. It has been found that most of the full grown borers pass the winter in their burrows underneath the bark, while the borers that are less than half grown pass the winter curled up in a thin half cocoon-like structure, usually at the upper end of their burrows, which are between the outer and inner surface of the bark.

This peculiar method of hibernation of the smaller borers is of considerable importance economically, as several of the Northern peach growers have discovered that they can quickly remove most of the borers a safe distance from the trees during a warm spell in winter by simply hoeing away the exuded gum from around the base of the trees.

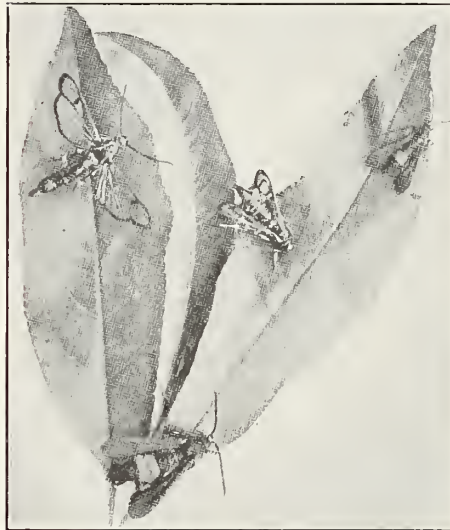
The peach tree borer apparently does not feed during the winter, at least such is the case in the Northern states.

In the latter part of April or early in May the borers awake from their winter's nap and begin feeding on the bark of the tree. Climatic conditions influence the time of beginning work to a great extent. The older borers usually begin work in their burrows where they left off in the fall, while the younger ones, which have hibernated in the outer bark, begin feeding there; however, they soon burrow deeper into the bark until the wood is reached, where they excavate, partly in the wood and partly in the bark, a burrow varying from one-half to an inch or more in width and from two to several inches long.

Occasionally a borer may be found in the trunk of the tree above ground, and even in the root six or more inches underground, but most entomologists agree that the most destructive work occurs on the trunk or roots about the surface or at a short distance below the ground.

The borers do the greatest damage during the season of the year in which they make their greatest growth. In the South this occurs in the late summer and

fall, for most of them pass the winter as full grown borers, but in the North the season of greatest growth is in May, June and July. It is surprising how rapidly the smaller borers grow in the spring. In experiments at Cornell it was found that borers, only one-fourth inch long on April 19th, grew so rapidly that in ninety days, or by July 20th, had not only grown into caterpillars an inch long, but had spun cocoons, transformed into pupae and the adult insect or moth had emerged.



MOTHS OF PEACH BORER  
(After Slingerland, Bulletin No. 176, Cornell Experiment Station)

When full grown the borer leaves its burrow under the bark and proceeds to make around itself the cocoon. This is a rough, brown, elongated oval capsule with slightly pointed ends, and is about an inch in length. It is constructed by the borer of its excrements and particles of bark, these being bound together with gum and a thin smooth inner lining of silk. It takes the borer from two to three days to complete its cocoon. The cocoons are usually attached to the outside of the bark of the tree at or near the surface of the soil, but occasionally one is found two or three inches below the surface or lying loosely in the soil. The borer spends from three to five days making its cocoon, then sheds its skin and transforms into the pupa.

Pupa is the third stage into which the peach tree borer is transformed. It is of a dark brown color, considerably lighter when first formed and measures about three-fourths of an inch in length. The male and female pupae are readily distinguished; the female is larger and more robust, and it has but one row of spines across the back of the seventh abdominal segment, while there are two rows of these spines on this segment of the male pupa. The pupal stage is the resting stage, and is where the change from the larva to the adult stage takes place. The pupa is not capable of moving about, but moves the abdomen slightly when disturbed. No feeding takes place in this stage. According to all printed reports the pupal stage lasts for about twenty-one days.

When the pupa is fully mature, or when the adult insect is ready to emerge, the pupa uses the hard, sharp, beak-like prominence on its head to break through the end of the cocoon, and then by means of the rows of spines on its back it moves or hitches itself forward until it projects for half its length or more out of the cocoon. This movement of the pupa out of the cocoon and the wise precaution of the borer to build its cocoon near the surface of the soil usually results in bringing the projecting pupa out of the soil. Thus the adult insect or moth, which is delicate and soft when it first emerges, finds itself at once in its favorite element—the open air.

The moth bursts through the pupa skin, which splits down the center of the back for a short distance. After carefully drawing out its wings, legs, antennae and tongue from their pupal sheaths it may crawl a short distance, where it rests for from twenty minutes to half an hour to let its wings expand and dry. It is then ready for active flight.

The adults are most active during the day, and fly but little, if any, at night. One who is familiar with them may, by close observation, see them flying about in the orchard during the summer months. No data is given to show exactly how long the moth lives, but it is probably not more than a week, the female moth probably living just long enough to mate and deposit her quota of eggs.

One female is capable of laying from 200 to 600 eggs, which are scattered over the trunk of the tree, the larger number within six inches of the soil and a few as high as eighteen inches above the surface of the soil, no attention being given to placing them in protected positions. They have been found singly and in groups of nine or ten. The eggs are of a light chestnut color, somewhat elliptical in form, and are slightly flattened. They average about .02 of an inch in length and a little more than half as wide.

Probably most of the eggs are laid in July and August in the Northern states. From these eggs there hatches, in a week or ten days, minute larvae, the young borers, which at once work their way into crevices of the bark, and soon begin feeding on the inner layers. A minutely small crack will suffice for the entrance of the borer, which fact has a very important bearing on the question of preventive applications for the pest.

At least eight different enemies of the peach tree borer have been found, which, in some localities, may play an important part in the control of the insect.

Although American peach growers have been fighting the peach borer for a hundred and fifty years the results from present day methods of warfare are not strikingly different from those recorded in 1806. Most of the applications now recommended were devised nearly a century ago.

Cultural methods have no direct effect on the borers unless it be to cultivate and fertilize the trees so that they will outgrow their injury. It is certainly

much easier to successfully combat the borer in well cared for orchards.

Owing to the fact that for many years the peach tree borer has been a common and serious enemy of the peach a large number of combative measures have been tried and recommended for its control. Only a few have been successful, these being either actual destruction of the insect or some application to the bark of the tree to prevent the entrance of the larvae.

The only practical methods of destroying the insects are the "digging out" method or the gathering of the cocoons. Several other schemes have been tried,

but have been found impractical, e. g., the "freezing" method, bisulphide of carbon and boiling water or similar applications.

After four years of experimental work the Cornell station came to the conclusion that the peach tree borer is one of the most difficult insects to control. Many mechanical devices and washes were used. Some injured the trees, others were ineffectual and a few were effective to a certain degree.

The "digging out" should be done twice a year, in September and June. The work done in September will destroy a large number of the small larvae, but

on account of their size some will be missed. These may be successfully found the following June, when they have obtained greater growth, and if removed at this time will prevent the production of the moths and a new infection for the following year.

Those substances which killed the trees and classed as dangerous were: Paris green and glue, raupenleim, dendrolene, white paint, white paint and paris green, printer's ink.

Those found to be practically ineffectual or useless were: Wire cages, carbon bisulphide, asafetida and aloes, lime, salt and sulphur, resin wash, hard soap, tallow, tansy, whale-oil soap, whitewash, lime and linseed oil, hydraulic cement wash, pine tar, Hale's wash (one application).

Those which kept out over one-half of the borers were: Hale's wash (two applications) kept out one-third to one-half, mounding kept out one-half to seven-tenths, tarred paper kept out one-half to seven-eighths, and tobacco stems kept out two-thirds to five-sixths.

Gas tar proved to be the best application tested by the Cornell station. It was used freely on the same trees for three successive years without the slightest injury to the trees, and it kept out from four-fifths to all of the borers. Trees should become thoroughly established and get a year's growth, then there will be very little danger from its use. It is believed that the gas tar, which is a by-product of the gas plants, will prove equally effective whether the borers are dug out or not.

The peach tree borer is perhaps the most destructive enemy of the peach, and it is evident that no one method will give complete freedom from it. Mounding, paper wrapping, or the deterrent washes should, therefore, be combined with the "digging out" process, and if these are kept up as a regular yearly procedure this pest should be easily kept under control and the amount of labor entailed should steadily diminish.

In the course of investigations of the peach borer by the United States Bureau of Entomology in 1905 another borer was found infesting the peach, inhabiting principally the trunk, especially of old trees or those showing injury from freezing or other causes. This insect, to be known as the lesser peach borer, *Synanthedon pictipes* (G. and R.), causes much injury, feeding on the soft bark and excavating burrows after the manner of the true peach borer.

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## PLANTING OF FLOWERS TO MATURE NEXT YEAR

BY DOROTHY, IN THE "COUNTRY GENTLEMAN"

**I**T is a mistake to suppose that gardening work belongs to spring in any exclusive sense. The owner (who is also the lover) of a garden knows well that this is a work for all times and seasons. When frost forbids digging we can still go on planning and forecasting. But, in early autumn digging is still in season, and there is much to be done in making a start on next year's flowers.

Most of our common garden flowers have now ripened the seeds of this year, and this is nature's intimation of the time of preparing for a succession. Many of them have already dropped the unnoticed product that will spring into a new life without thought or care on our part, if undisturbed. But that is far from being enough. We may accept a voluntary increase as a free bounty, but good gardening demands that we shall do our part intelligently.

Many biennials and perennials can be grown from seed sown now that will bloom next year, thus gaining a whole year over seed kept over and sown in the spring. The little seedlings will strike root deeply throughout the fall weather and start into growth very early next spring. This is also true of some of the best annuals that are hardy enough to bear the cold of winter. These will come into bloom early, and so help in a continuous show of color. This constant

succession of flowering, to keep up the effect, while varying its features throughout the season, seems to be more and more a study with gardeners. For this purpose good annuals are especially valuable for filling in dull or vacant spaces between the more permanent occupants of the beds. Perhaps this is one reason why fall planting of many seeds has become much more general.

Cool and moderately moist weather conditions, such as generally obtain in September, are the most favorable for germination of a large proportion of small seeds. The gay and fragile poppy, for instance, grows better when the seeds are sown at this time than it does at the ordinary date in May. This is true both of the gorgeous perennial poppy and of the annuals, like the exquisitely dainty Shirley variety. Hybrid Orientals can now be had in a variety of colors, and the best of these are among the most striking ornamentals for a mixed border, though care is necessary in choosing both the situation and their next neighbors. Annual poppies sown in September make a strong growth early in the spring, and flower earlier and more freely (on account of a more robust growth) than those sown in the spring.

Rules for gardening have so many exceptions that a wide margin of variation is commonly required if they are

adapted to actual practice. It is often advised to sow perennials "not later than the middle of August." Other good authorities recommend "all the summer months" for this work. In fact the seeds of many perennials are liable to be either very slow or very uncertain in germinating, and the chances of exactly the right weather conditions may bring good seedlings from the September sowing earlier than from a sowing made several weeks before. And it is not a rare case to have certain seeds remain dormant in the ground until the following season. Discouraging? By no means. The many delightful uncertainties only add to the interest of a garden. But these are some of the reasons for using every opportunity and making the most of the pleasant days for outdoor work that come in early autumn to do as much as we can for next year's flowers. Even the seeds that are too late for this year's start will usually make good plants in the spring by the time the ground is ready to work. I am surprised every year to see how many plants of pansies, candy-tuft and the like are up and growing from self-sown seed before one has felt that it was time to entrust anything to the chilly ground.

If one depends upon plants and not upon seeds this is one of the most important months for work in the garden. Setting and dividing perennials is done to great advantage in the fall. With some kinds it is in fact the only good time for the work. Peonies, for instance,



ROSES IN BLOOM, PORTLAND, OREGON

a class by themselves in the many splendid improved varieties now so popular, should always be planted in the fall—in September, if possible. They start into growth very early in spring, and one year's bloom is lost if they are moved then. Planted now, they become well rooted and ready for the season of new growth. The peony is, however, one of the flowering plants that most needs time for its best effect; it is shy of being disturbed and gains immensely as it becomes a strong clump, massive both in flower and foliage, and covered with buds and blossoms by the dozen. It is no longer the fashion to call the peony coarse. In fact not only the most delicate tints of soft color, but fine fragrance also is found in these richly solid and most effective flowers. Entirely hardy and free from insects and diseases, it is perhaps no wonder that they are often put forward now as rivals to the rose.

A common error in planting is to set the crown too deeply; two inches of cov-

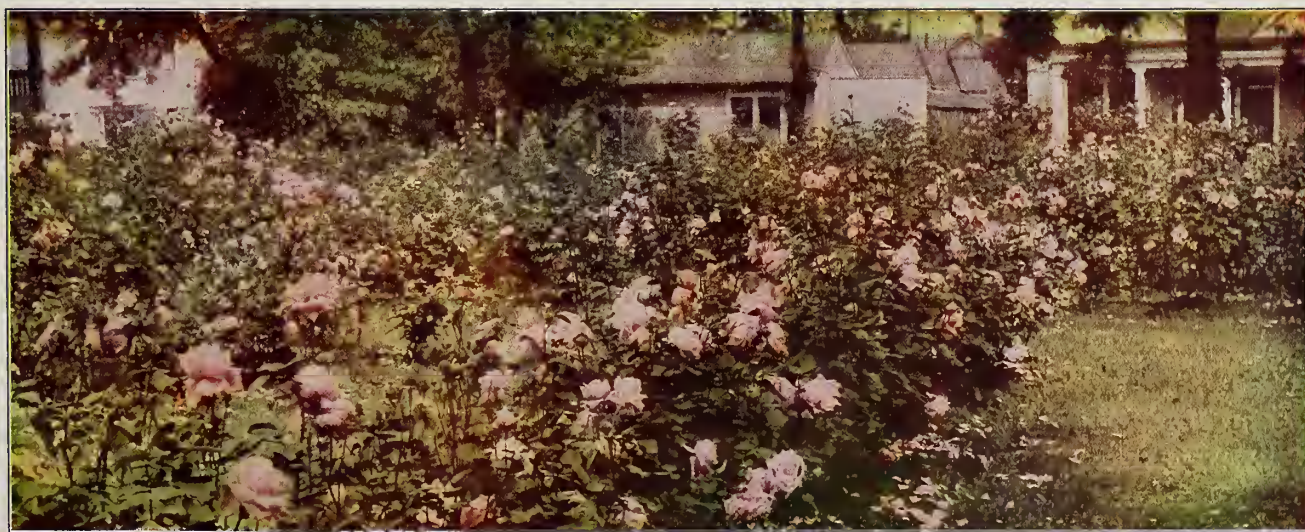
ering with soil is enough. Like the rose, the peony should be well fed; rich soil and abundant moisture are required for the best results.

Another favorite hardy perennial much recommended for fall planting is the iris. Both the German and the Japanese varieties may well be planted now, but in my own experience I have found the iris one of the most accommodating of plants in this respect, submitting cheerfully to removal at almost any time. If one has a pond or stream on the place it is a delightful plant for colonizing, growing and increasing without care in a moist situation. The German iris increases its root stocks rapidly, and in a mixed bed the more hardy and vigorous kinds are liable to take possession, to the detriment of the more delicate ones, so that choice sorts are apt to disappear unless given a separate location.

This is a favorable time for starting or transplanting woody vines, like the honeysuckle. The ease with which

beauty and shade may be increased by starting screens and covers for fences and pergolas is not always recognized. Wherever such vines are growing vigorously (without too much interference) an abundance of rooted sections will usually be found at the base, each one of which, moderately cut back, will make a vigorous young plant in a new situation. Enlarging our own stock and sharing with friends and neighbors is one of the constant privileges of having a garden.

To mention the spring flowering bulbs is to mention one of the greatest and brightest opportunities for fall work in providing next year's flowers. But even to begin upon this subject would lengthen this article too much. And, then, October is the month for planting tulips and hyacinths in the open ground, though 'tis true that daffodils are thought to do better planted in September. They wake early to bring in the sweetness and charm of April.



"A YARD OF ROSES" IN PORTLAND, OREGON

# The New Peach

## THE GILLINGHAM



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## Oregon Nursery Company

ORENCO, OREGON

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AMERICAN BEAUTY ROSES IN BLOOM, PORTLAND, OREGON

# Portland Rose Festival

TO BE HELD IN

**Portland, Oregon, June 5 to 10, 1911**

WILL BE A MOST BRILLIANT

## Floral Fiesta and Civic Jubilee

Portland, "The Rose City," will be a scene of splendor and the center of world-wide interest for one week

**REDUCED FARES TO PORTLAND**

FROM ALL POINTS ON THE

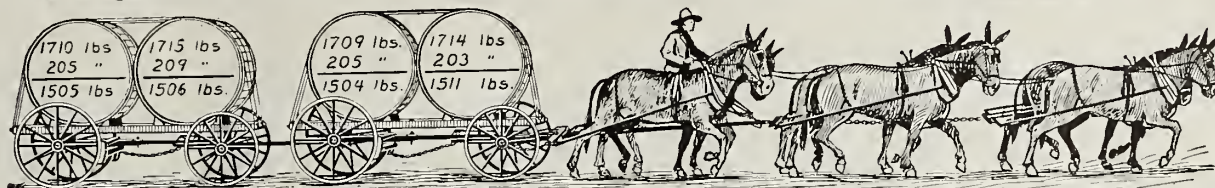
**Oregon-Washington Railroad & Navigation Co.**

To keep perfectly posted on all important matters relating to this great event, call on local agents for circulars and printed matter, or write to

**WM. McMURRAY, General Passenger Agent, Portland, Oregon**

In the March "Better Fruit" we submitted you some of the "Expert Testimony" received; we now give you some practical illustrations of the further advantages of

# "BLACK LEAF 40"



1. The "old way": Hauling Tobacco Stems to the ranch, to make "Home-made" Extract. Total weight about 6,800 pounds.

**NICOTINE YIELD**, about 42 pounds. Sufficient to make 10,000 gallons of wash " $\frac{5}{100}$  of 1 per cent Nicotine." Under the "home-made" process, no uniformity could be counted upon.

2. "Progress": Hauling twenty-eight five-gallon cans of "Black Leaf" Tobacco Extract to the ranch.

3. "The Latest": Taking one case (ten tins) of "Black Leaf 40" to the ranch.



Total weight about 1,750 pounds. **NICOTINE YIELD** about 42 pounds.

Makes 10,000 gallons of wash " $\frac{5}{100}$  of 1 per cent Nicotine." Uniform strength guaranteed.



Total weight about 160 pounds. **NICOTINE YIELD** about 42 pounds.

Makes 10,000 gallons of wash " $\frac{5}{100}$  of 1 per cent Nicotine." Uniform strength guaranteed.

Owing to the large dilution, neither foliage nor fruit is stained.

Like our "Black Leaf" Extract, "Black Leaf 40" may be applied when trees are in full bloom and foliage, without damage to either. Also, "Black Leaf 40" is perfectly soluble in water—no clogging of nozzles.

**PRICE:** {  $10\frac{1}{2}$ -lb. can, \$12.50, makes 1000 gallons, containing " $\frac{5}{100}$  of 1 per cent Nicotine"  
 $2\frac{1}{2}$ -lb. can, 3.25, makes 240 gallons, containing " $\frac{5}{100}$  of 1 per cent Nicotine"  
 $\frac{1}{2}$ -lb. can, .85, makes 47 gallons, containing " $\frac{5}{100}$  of 1 per cent Nicotine"

These prices prevail at ALL agencies in railroad towns throughout the United States. If you cannot thus obtain "Black Leaf 40," send us postoffice money order and we will ship you by express, prepaid.

The Kentucky Tobacco Product Company (Incorporated), Louisville, Kentucky



## \$250.00

### REWARD, IN GOLD COIN



The above reward is offered for competent proof that Ortho Lime-Sulphur Solution is even equaled or matched by the average output of any other lime-sulphur plant in the United States or Canada in the following points to-wit:

- First: The container;
- Second: The average strength;
- Third: The uniformity.

Ortho Lime-Sulphur Solution is sold in 55-gallon galvanized steel drums; tests always approximately 36 degrees Beaume, about 15 to 20 per cent stronger than any other average solution. The best is never too good. The first cost is no greater than that of the weakly made. The "Ortho Way" is the best. Special prices for the month of March.

## California Spray-Chemical Co.

WAREHOUSES IN PORTLAND AND SEATTLE

WATSONVILLE, CALIFORNIA

# BETTER FRUIT

HOOD RIVER, OREGON

OFFICIAL ORGAN OF

THE NORTHWEST FRUIT GROWERS' ASSOCIATION

A MONTHLY ILLUSTRATED MAGAZINE

PUBLISHED IN THE INTEREST OF MODERN  
FRUIT GROWING AND MARKETING

ALL COMMUNICATIONS SHOULD BE ADDRESSED AND  
REMITTANCES MADE PAYABLE TO

Better Fruit Publishing Company

E. H. SHEPARD

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IN ADVANCE, IN UNITED STATES AND CANADA

FOREIGN SUBSCRIPTIONS, *Including Postage*, \$1.50  
ADVERTISING RATES ON APPLICATION

Entered as second-class matter December 27, 1906,  
at the Post Office at Hood River, Oregon,  
under Act of Congress of March 3, 1879.

## THE FRUIT GROWERS' HOME.

Fruit growers are high-class, intelligent, educated people, consequently their desires are more or less similar to those of city people, and it is evident that there is a strong desire to make their environments as attractive as possible. Good schools are already established, good roads are being built, the orchard is set and now a movement for beautifying the home grounds is rapidly spreading.

"Better Fruit" was the first horticultural paper to take the initiative in this movement in a big, broad-minded way by publishing, in May, 1910, the first entire floral edition ever published by any fruit growers' paper. This edition was so popular that the demand, in a very short time, exhausted the large number of extra copies which had been printed. So, again, we produce in this number a floral edition, furnishing the fruit grower with good articles on the growing of all kinds of flowers, with splendid articles about the best varieties to be planted. The edition speaks for itself, and it hardly seems necessary to comment further editorially upon it than to say that "Better Fruit" hopes the day will come when every fruit grower will surround his house with flowers, shrubbery and a lawn, and have his home as beautiful as that of any of our city friends.

Just a word more. A few dollars and a few hours' work will accomplish wonders, and remember—it is the home beau-

tiful, the home attractive that will keep the young people at home on the farm and make your life pleasanter and much happier.

◆ ◆ ◆

**PRUNE PRICES.**—The San Francisco Chronicle comments editorially upon the prices for prunes during 1910, stating that the State Board of Control of Iowa said that the inmates of the state institutions must be deprived of the joy of consuming the California prune during the next six months for the reason that the price is twelve and one-half cents per pound. Consumers in California are paying this figure. Growers who retained their last year's crop are getting eight to nine cents; the processing and packing must be added to this figure, and the profit for the retailer, also the freight, before the price is made to the consumer, therefore it would seem that the price of twelve and one-half cents is very reasonable in Iowa. The bulk of the crop last year was sold by the grower at from four and one-half to five cents. Apparently the prune supply is not equal to the demand, and the condition of the market indicates that the prune industry looks prosperous for the coming years, and that with 1910 cleaned up, 1911 prices ought to be very satisfactory to the grower.

Ottawa, April 3, 1911.

Editor "Better Fruit":

I must write you my appreciation of "Better Fruit." It is without a peer as to contents and makeup. I want to know if you have any back numbers available, as I consider they are an acquisition to any fruit grower's library. I did not receive the January number, but February arrived, and was the means of getting you two new subscribers. Professor W. Saxby Blair of McDonald Agricultural College made the statement in open class that "Better Fruit" was the best magazine published.

Faithfully yours,

P. AITCHISON.

## SELLING THE FRUIT CROP.—

Never before in the history of the fruit industry of the Northwest has the interest been so keen or so general about plans for disposing of the fruit crop as during the last few months. In previous years the crop has been much smaller, and not only readily, but quickly and satisfactorily disposed of. In 1910 the crop was larger than in previous years, and the increase demanded a wider distribution. This, however, was not fully realized until so late in the season that the growers were unable to organize properly and put into effect a selling force or system sufficient to adequately distribute the crop.

A large crop coming during 1910, when, as everyone knows, financial conditions were by no means at their best, made matters all the more difficult. The fact that the financial depression was anticipated caused this depression to be all the worse. The political situation

and the trust agitations were causes that tended to keep capital out of new investments and exploitation work. While the financial conditions during the past year have never been viewed as being critical, everyone realized that money was very tight. It is generally understood, and believed, that financial conditions will improve very materially in the year 1911, and it is now considered that the business of the country is prosperous and that there is no need for uneasiness, yet a feeling of conservatism must naturally be expected to prevail.

We cannot help but feel that financial conditions are largely accountable for last year's prices being somewhat lower than in previous years. However, the prices, in a measure, are also due to lack of proper distribution; better prices would have been realized if large markets had not been supplied so heavily. It is a well known fact that a number of large cities, which should have paid good, fair prices, either received no shipments from the Northwest or only a moderate supply, not equal to the actual demand. It is this that is causing fruit growers to think with a view to solving the problem of selling.

Early in the year—in January—a meeting was held in Portland, with representative delegates from different districts, to discuss the plan of forming a central selling agency for Oregon, Washington and Idaho. Later a meeting was held in Walla Walla, and a plan has been evolved, which is being submitted to the different districts for consideration. It remains to be seen what will be done. Much progress, however, has been made and a better understanding of the business has resulted, and in all sections activity prevails. Work has been done along the right lines for the betterment of the selling, and the fruit business in general.

Southern Oregon has formed a district organization composed of associations in each one of the shipping centers. This is certainly a step in the right direction. The Yakima Valley already has one association, and a district organization is being formed in other sections where the Yakima Horticultural Union has no membership. Wenatchee is active for district association to include Wenatchee, Chelan, Malaga, Peshastin, Leavenworth and other tributary and similar fruit growing sections in that district.

In April a meeting was held at Albany, Oregon, with a view to forming an Oregon selling agency to include the Willamette Valley, for the sections from Portland to Roseburg. Hood River has the oldest association, which has always been successful, and associations are already formed in the surrounding territory—Mosier, White Salmon and Underwood. It is evident that the association idea is progressing rapidly, and the district association plan is also meeting with success in different districts, and the indications are that in coming years there will be very few growers shipping independently; it is apparent that business will either be done through associations, district associations or a central selling

Continued on page 55.

# Land Bargains

In the Famous  
White Salmon Country

A partial list of bargains for sale by

## R. FIELD & CO.

WHITE SALMON, WASH.

An ideal fruit belt, mild climate and wonderful scenery; pure water and fuel in abundance; a productive and inexhaustible soil, assuring large and unfailing crops; a ready market, with the best transportation facilities.

You will have to act quickly if you want any of these, because land in this famous country is rapidly increasing in value. We have sold many tracts of land in the last three years, and those who bought from us are well pleased. We can refer you to them. We also have bargains in city property and are daily listing other outside tracts, which we will be glad to show you. We guarantee every tract as good as represented.

Following are only a small portion of the lands we have on our list:

300—80 acres 9 miles out; good apple land; 60 acres mostly level, 20 acres rolling, 3 acres cleared; 125 fruit trees set out; fine creek running through the place. Price \$6,000; half cash.

301—30 acres 1 mile from town; 20 acres cleared, 15 acres in 3-year-old fruit trees, 1½ acres in strawberries; running water on this place; on the main road; will make one of the finest homes; close to town; will increase in value every year. Price \$18,000; half cash, rest to suit.

302—160 acres 10 miles out; rich soil; 4 acres in trees just beginning to bear; about 100 acres tillable land, rest rolling, with fine fir timber on it. A cheap place at \$5,000; terms given.

303—2½ acres, all in fruit trees, mostly bearing; joining town. Price \$2,500, on easy terms.

304—160 acres at Gilmer; rich red shot soil, small house, small clearing; mostly covered with fine saw timber, which will help pay for clearing; good place to divide into small tracts. This can be had for \$5,000 and can get 160 joining for same price. If wanted, this is a fine proposition.

305—80 acres 9 miles out; about 50 acres can be set to fruit trees, rest is hillside pasture. Land can be bought at \$50 per acre; \$2,700 cash, rest time.

306—160 acres in Snowden country; is all good land, covered with pine and fir timber; small house. Price \$40 per acre.

307—A nice 160 acres at Trout Lake, unimproved; some fine timber on it, also a running creek. Price \$20 per acre; easy terms.

308—Nice level town lots with bearing fruit trees on them; 300 to 400 big lots; nice corner lot in Overlander Addition for \$250, on easy payment plan; also some fine houses for sale at bargains.

309—10 acres 1 mile out, unimproved; is nice level land; has some rock on it, but they can be taken off; would make a nice place for chickens and fruit combined. Price \$1,500.

410—5 acres just outside of city limits, half mile from business center of city; 3 acres in cultivation and mostly set out to commercial orchard 3 and 4 years old, beginning to bear; all good land, with a fine view of the Columbia River and Hood River Valley; fine home and money-maker. Price for a short time, \$2,500; terms given.

311—80 acres irrigated land in Twin Falls country, Idaho, all cleared; been in crops 2 years; to trade for unimproved land in White Salmon Valley.

312—20 acres 8 miles out; rich red shot soil; 4 acres in Spitzenberg and Delicious apple trees 2 years old; no rocks and no waste land; a fine tract, sloping gently to the east; about 10 acres slashed and burned; some timber; in the great development section. Cheap at \$3,500.

313—60 acres 12 miles from White Salmon; all good land; about 10 acres in cultivation; a few fruit trees and small house; is moistened by spring; rest of land is easily cleared. Terms, \$2,000 cash, \$1,000 on time to suit.

314—5 acres in a high state of cultivation, 2 miles from town; fine 9-room house; the land is all set to trees 2 and 3 years old, and strawberries between the trees, which on an acre clears up \$150 to \$200 each year. This is a money-maker from the start and will increase every year. Price \$6,500; half cash, rest 3 years time.

315—40 acres close to Snowden, unimproved; the land is half good tillable and half rough, with fine saw timber on it. Can be had for \$1,000; terms, \$600 cash.

316—9 acres 2 miles from town; 8 acres in cultivation and 6 acres set to trees partly in bearing, also loganberries and raspberries, 4 acres in strawberries; this is very early and first berries ripe in locality; small house and barn. Price \$9,000; half cash.

317—30 acres 8 miles from station, unimproved; 20 acres timber, rest in brush land and easy clearing; two fine springs of water on this place. Price \$100 per acre; terms given; half cash.

318—6½ acres, unimproved, 1½ miles from town; well located, fine fruit land; wood on this place will help clear same; right on main road. Price \$250 per acre; half cash, rest to suit.

319—40 acres near Robertville; all good land, unimproved; a fine piece of land to put in apples; land around this place is rapidly increasing in value. Price \$35 per acre; terms.

320—20 acres 1 mile from town; about 15 acres good land, rest rough; red shot soil; has a west slope; would be a nice chicken ranch. This is a great snap at \$125 per acre; terms, half cash.

321—10 acres half mile from town of White Salmon; all good land; 7 acres in high state of cultivation, mostly out to good commercial orchard, filled in with peaches, pears and cherries; half of orchard in bearing this year, rest are 2 and 3 years old; 1 acre strawberries in full bearing; good new 8-room house, small barn and outbuildings; tools and implements go with the place. Price \$5,200; terms.

322—26 acres, all good land; 10 acres slashed and burned, light clearing; the rest is brush land easy to clear. This is a tract of land we can recommend to be first class. Price \$100 per acre; terms.

323—40 acres 3 miles north of White Salmon, unimproved, with fine timber, willow and hazel brush growing on it; some is rolling, some level. This can be had by paying only \$1,000 down, and rest good terms.

324—20 acres 9 miles out, in the apple belt; fine red shot soil; some good fir timber. A bargain at \$2,000; terms.

325—40 acres in the apple belt, in a high state of cultivation; all set to trees; one of the best 40-acre tracts anywhere in the country; very rich soil; keeps plenty of moisture during summer; about 15 acres in 3-year-old orchard and 25 acres in 1-year-olds. Price \$24,000; good terms given.

326—80 acres 4 miles out, in choice apple belt; all unimproved, but easily cleared; mostly all level. Price \$100 per acre; terms.

327—40 acres 3½ miles out; 35 acres level, 5 acres rolling; good rich soil, well watered by springs; about 15 acres out to young orchard; a good house of 5 rooms, barn 30x40, and outbuildings. Price \$7,000; two-thirds cash.

328—160 acres 7 miles out, in good location; 110 acres tillable land, rest pasture land; red shot soil; very fine apple land; has about 5 acres in 3-year-old fruit trees; fine spring of water; small house. A good buy at \$12,000; terms.

329—120 acres 3 miles out; small house and barn; 2 acres cleared and set to young trees, 10 acres more slashed and burned; the land is rolling, but well located. Price \$50 per acre; terms.

We shall be glad to give you any further information you may desire. Being well acquainted with the possibilities and resources of the valley, we are in a position to give our customers the best service possible, and gladly make arrangements to show intending settlers the country, if they let us know when they are coming. We respectfully solicit your patronage.

## R. FIELD & CO.

MAIN STREET WHITE SALMON  
Reference: White Salmon Valley Bank

# HOOD RIVER

## Makes New High Records

- 1** In competition with twenty-two cars from Northwest Apple Districts. Won Sweepstakes and \$1000 cash prize.
- 2** In competition with four cars Spitzenbergs. Won Best carload of Spitzenbergs and \$250 cash prize.
- 3** In competition with four cars from Northwest Apple Districts. Won Best carload Newtowns and \$250 cash prize.
- 4** Won Association of Chamber of Commerce of Chicago, \$500 Silver Cup for Best Packed Car.
- 5** At Portland, in competition with State of Oregon, Hood River won nearly every entry in one, two, three order.

This only proves our claim of ten years standing—HOOD RIVER is the quality fruit district—the ideal location for *you*

FOR FURTHER INFORMATION WRITE THE

**Secretary, Hood River Commercial Club, Hood River, Oregon**

Continued from page 52.

agency on a large scale, and what is not moved through these channels will be moved through incorporated selling agencies or incorporated fruit buying concerns. Which of all these plans will prove the most effective and satisfactory is a difficult matter to prophesy. Theoretical plans will have to be tried in a practical way before they can be accepted as being successful.

There are so many energetic, able fruit growers working earnestly to solve the problem that it is safe to venture that marketing conditions will be materially improved in every way during the coming year.

While a great many have looked to see "Better Fruit" advise the fruit growers what to do, it must be remembered that the editor is just a human being—not a prophet—and recognizing that there are just as smart, and many smarter, men than he engaged in trying

to solve this problem, he cannot help but feel that it would be presuming on his part to give advice to those who are just as well informed as he is.

In conclusion, it would take nothing short of a prophet to see the way clear to point out a course that would not have more or less stumbling blocks, and it seems that the solution must come as a matter of evolution from all of the different districts rather than through some individual pointing out the way.



**THE YELLOW NEWTOWN PIP-PIN.**—For eight years we have been told that the people of the United States were not buyers of Newtown Pippins. We were told that the English market was practically the only market, and up to the present year England has consumed the greater part of the Newtowns from the United States at satisfactory prices. However, this year the English market has been somewhat slow, and prices not so good as usual. The consequence has been that growers of Newtowns have been investigating the United States as a market for Newtowns. Notwithstanding the fact that a great many fruit dealers did not know a Newtown when they saw one, and notwithstanding the fact that nearly every fruit dealer said that there was no demand for the Newtown in his section, the contrary has been well proved this year. Many cars have been marketed in various parts of the United States, and choice Newtowns

### WHOLE ROOT TREES

Are the only kind to set. Now is the time to make arrangements for your next fall's requirements. We have a large, full line, and ask that you correspond with us.

**CARLTON NURSERY CO.**  
CARLTON, OREGON

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420 Acres Devoted to Nursery Purposes

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Established 1863 by J. H. Settlemier

Grower of Choice

**NURSERY STOCK**

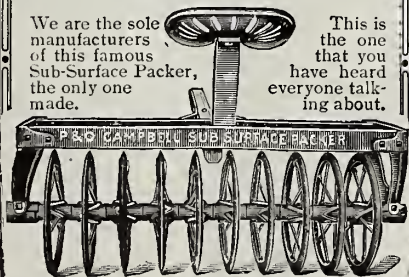
**F. W. SETTLEMIER**

Woodburn, Oregon

**P & O**

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We are the sole manufacturers of this famous Sub-Surface Packer, the only one made. This is the one that you have heard everyone talking about.



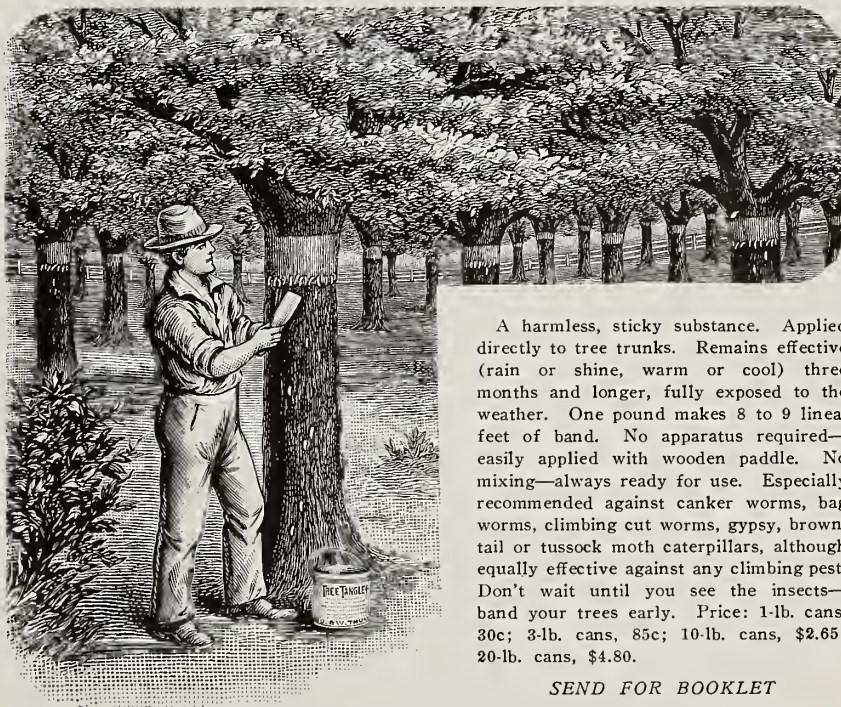
Send for our Special Pamphlet on Sub-Surface Packing, the best known system for "dry farming," a method of absolutely insuring bumper crops with a minimum rainfall—the salvation of semi-arid regions.

Made in Three Sizes, with 10, 16 and 24 wheels, is heavy and strong, and the frame is made to carry all the extra weight required. Write for Catalog No. V

**Parlin & Orendorff Co.,**  
CANTON, ILL.

BAND YOUR TREES WITH

## TREE TANGLEFOOT



A harmless, sticky substance. Applied directly to tree trunks. Remains effective (rain or shine, warm or cool) three months and longer, fully exposed to the weather. One pound makes 8 to 9 lineal feet of band. No apparatus required—easily applied with wooden paddle. No mixing—always ready for use. Especially recommended against canker worms, bag worms, climbing cut worms, gypsy, brown-tail or tussock moth caterpillars, although equally effective against any climbing pest. Don't wait until you see the insects—band your trees early. Price: 1-lb. cans, 30c; 3-lb. cans, 85c; 10-lb. cans, \$2.65; 20-lb. cans, \$4.80.

SEND FOR BOOKLET

**The O. & W. Thum Company** GRAND RAPIDS MICHIGAN

Manufacturers of Tanglefoot Fly Paper and Tree Tanglefoot

## Pleased As Usual

We are receiving many gratifying reports from our spring deliveries, which goes to show that our trees are proving what we claimed for them.

You realize, of course, that if we did not set out to give satisfaction, we could not long continue in business. You must be pleased with our treatment or we both lose money.

A good many who waited until late before ordering were disappointed, however, for owing to the great demand we were out of many varieties. It's the same old story every year. Always a lot who wait until just before shipping time to order, and then have to take what is left, whereas had they ordered early they could have gotten what they wanted.

Let us send you our new catalog, which will be off the press about May 15th. It's a beauty and we want you to have it. It will be sent you for the asking.

**Yakima Valley  
Nursery Company**

Toppenish, Washington

More salesmen wanted.

THE SIMPLEST, EASIEST AND  
MOST PERFECT

# Picking Bucket

ON THE MARKET

Every piece of fruit that is picked without bruising is  
*money in your pocket. A day's picking will pay for it.*

PRICE, \$1.50



AGENTS WANTED AT ONCE

WRITE

## Palmer Bucket Co.

HOOD RIVER, OREGON

P. S. — Tomatoes, cherries, grapes and all tender fruit can be emptied from this bucket without a bruise.

by carloads have been readily sold at \$1.50 per box net, f. o. b. shipping station, which was a better price than was obtained on the English market during a good part of the season to date.

**SEASONS OF HIGH-CLASS APPLES.**—While there are many varieties of quality apples—hundreds of them—there are few that are universally known in a large commercial way. Each variety of apple should be marketed in its season, and it should be the endeavor of growers and dealers to clean out one variety in its season to make room for the next kind.

The Gravenstein is the first fall apple of high-class quality—a splendid apple. This is followed by the Jonathan, and during its season there is nothing better. The next varieties of apple that are ready for consumption are the Spitzenberg and Ortley, which generally are placed on the market in the latter part of November, during December and extending into January; then follows the Rome Beauty, and for the latter part of the apple consuming season—that is, during December, January, February, March and April—there are two varieties that for quality and keep are unequalled, the Winesaps and Newtowns.

In a few years the belief will more than be justified that good prices will prevail for these varieties under normal financial conditions, especially if growers so systematize the selling end of their business as to create a thorough and proper plan for selling and distributing

the different varieties during the proper time of the year for each.

*Editor Better Fruit:*

Enclosed find one dollar to cover subscription another year. Your paper is a dandy, and I would not miss a single number. Yours truly, Oscar Reinhardt, Brewster, Washington.

COMPLYING WITH THE INSECTICIDE ACT OF 1910  
IT WILL PAY YOU TO USE EITHER

**ARSENATE OF LEAD**  
PASTE OR POWDERED  
FOR ALL LEAF EATING INSECTS  
RESPONSIBLE DISTRIBUTORS AND AGENTS WANTED

**KEY BRAND**  
RIGHT PRICE AND MATERIAL  
FUNGICIDE AND INSECTICIDE  
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Richland, Washington

**FRUIT TREES**

Complete stock of leading varieties of  
Apples, Pears, etc.

WRITE US FOR PRICE LIST

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*New, handsome, instructive, up-to-date, describing*

Fruit and Ornamental Trees, Shrubs, Vines, Roses, Berry Plants, etc.

*Free on request. Write now, mentioning this paper.*

**J. B. PILKINGTON, Nurseryman, Portland, Oregon**

WHEN WRITING ADVERTISERS MENTION BETTER FRUIT

## Car Lots Our Specialty

**John B. Cancelmo**

127 DOCK STREET  
PHILADELPHIA

**FANCY BOX APPLES**

## NEW POULTRY BOOK

**Just Out** Conkey's new, big, 80-page illustrated guide for beginners, and reference for experienced poultrymen. Up-to-date housing methods, feeding, hatching, saving the chicks; how to prevent and treat disease. Chickens, turkeys, ducks, geese. There's a copy for you for the asking. Send name, also name of nearest poultry supply dealer, and 4c (stamps) for postage.  
**THE G. E. CONKEY COMPANY**  
56 Commercial Bldg. (45) Cleveland, Ohio

## STORAGE

Ship your Furniture to us  
to be stored  
until you are located

**Transfer & Livery Co.**

Hood River, Oregon

**W**E regret to receive complaints from spray manufacturers in reference to analyses that have been published at various times by competitive firms. Competitive tests are not always definite because conditions are not always similar. Comparative analyses are not always absolutely significant because the specimens submitted for one cause or another may not be a fair average specimen. We publish elsewhere in this edition a complaint from Sherwin-Williams, stating that an analysis was made with spray which had simply been put out in small quantities for experimental work, and this specimen was not put out for general use.

◆ ◆ ◆

**GREEN APHIS.**—For several years in the past green aphis has been a very serious pest. While not an easy bug to control nevertheless it can be controlled by effective work if the right kind of spray is used. The average reason for green aphis getting a start is because the grower does not begin to spray until they have infested the entire orchard. The orchard should be watched very carefully during the spring and summer months, and whenever the aphis begins to appear continued spraying

should be kept up as long as aphids are in evidence. The best way, when they first appear on young trees, is to dip the twigs in a bucket of spray if the twigs will easily bend. In a young orchard the spraying can be done effectively with a hand sprayer, but in an old orchard it is necessary to get out the spray outfit. If the spraying is not promptly done the aphids will curl up the leaves and it is impossible to do effective work. While several remedies have been used, there is nothing more effective than Kentucky Tobacco Dip, made by the Kentucky Tobacco Product Co. Another cause for lack of control of this pest is that insufficient supplies are usually carried in stock by dealers—the grower trusts to getting the Tobacco Dip when he needs it. Every grower should provide himself early in the season with a sufficient quantity to spray thoroughly and carry such an amount on hand.

◆ ◆ ◆

**ELSEWHERE** in this edition appears the article "The Package Sells the Goods." Every fruit grower is urged to read this article thoroughly, and we do not hesitate to urge every grower to try the experiment by putting some of his fruit in these packages during the coming season.

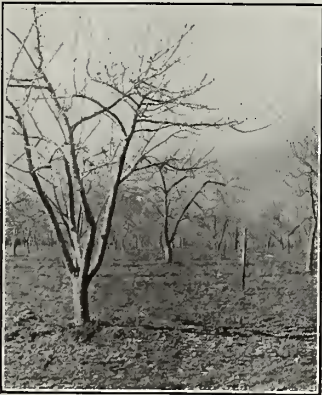
## Lime-Sulphur Hydrometer

Shows proper strength for  
Spraying Trees

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This cut shows part of bearing orchard, in winter.

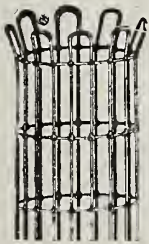
Condition excellent. Price and terms right.

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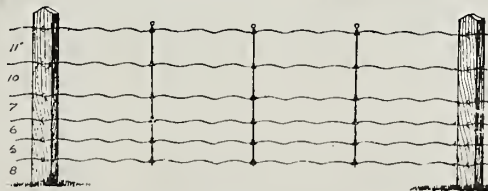
**A. N. PARSONS, Grants Pass, Oregon**

Reference by permission: First National Bank, Grants Pass Banking and Trust Co.

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These guards are made of No. 8 galvanized wire. Stay wires 2 inches apart and 18 long. Cost 25c each. Larger sizes to order. Guard will fit any tree up to 10 inches in diameter. To hold the guard in position, press the stay wire 6 inches into the ground.

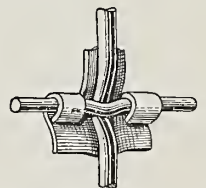


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is built up complete, on the ground, of coil spring wire. Draw in one wire at a time and as many as required; after which bind on the stays of No. 8 wire with the Anchor Clamp. We loan or sell the tools.

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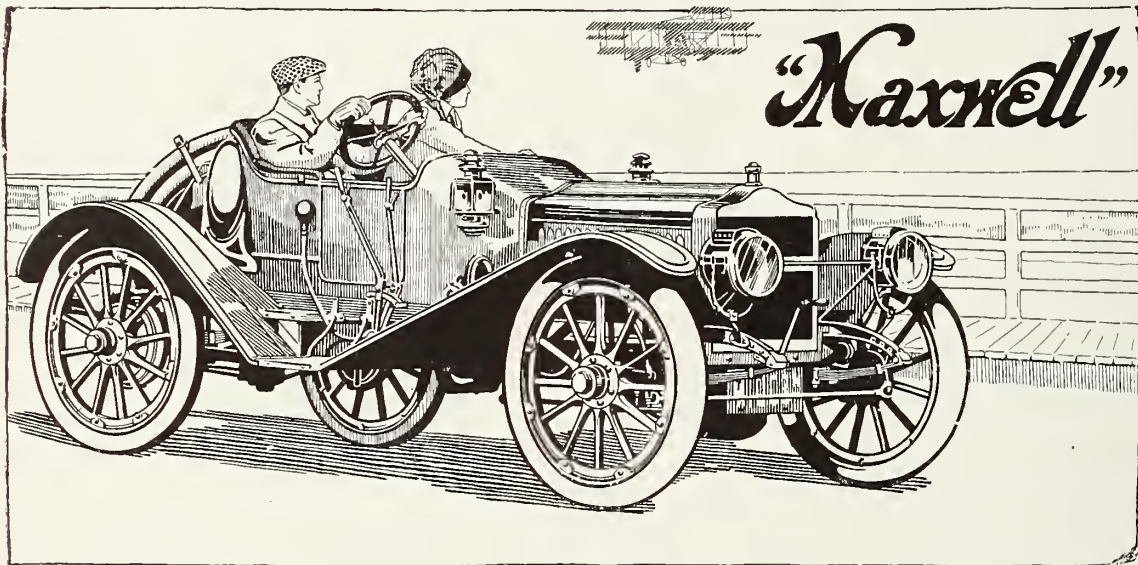
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# THE HARDY NARCISSI FOR OUTDOOR PLANTING

BY ARTHUR BOWMAN, WITH PORTLAND SEED COMPANY

**A** PLANTING PLAN for beautifying the home is incomplete without "daffodils." The purity and beauty of their coloring and their graceful elegance of form stamp them as true

Since that time much has been accomplished, and a brief story of their advancement, together with notes on popular types and their culture, may create an interest that will lead to a

species, that he became convinced of the possibility of many of them being hybrids. To demonstrate this he crossed the trumpet with the poeticus types, and the seedlings showed a composite of both parents.

The announcement of these results in the early forties created a profound sensation, many enthusiasts taking up the work of development, among whom the names of two men and the results of their labors stand forth prominently, one of whom was Edward Leeds, a stock broker of Manchester, England, the other, William Backhouse, a banker of Darlington. Both developed large and distinctive collections, which were eventually secured by Peter Barr. They were the only collections of seedling daffodils in the world, which, added to Mr. Barr's own list, on which he had been working for some ten years, gave him the complete collection of all varieties in cultivation. This was in the seventies. For ten more years the work of gathering material, straightening out the family, grouping and naming varieties proceeded steadily, and when his labors were completed in the early eighties the collection represented some five hundred distinct varieties, including many new sorts, and commanded the attention of the Royal Horticultural Society of Great Britain, which, in the spring of 1884, sent a deputation



classics among flowers—real masterpieces of nature—aided in their development by the guiding hand and loving care of a master mind; for to their present popularity and perfection the world owes much to Peter Barr, "the father of the daffodil."

As long ago as 1629 Parkinson, a London apothecary, published his book, "A Garden of Beautiful Flowers," in which he listed ninety-six varieties of daffodils, and expressed regret that no two authorities agreed as to their classification.

closer acquaintance and greater appreciation of these most charming of all spring flowers.

From the beginning of the seventeenth century until the early part of the nineteenth no important advancement was recorded. About this time a group of London amateurs collected and grew all the varieties obtainable. Dean Herbert's book on "The Amaryllidaceae" then made its appearance, and it was during his study of the daffodil family, analyzing what had before been considered as



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If you have not the time or inclination to develop and plant an orchard yourself, we will have our expert horticulturist plant an orchard for you to the best varieties of fruit, taking entire charge of it until it comes into bearing, and then turn it over—an orchard which is an income bringer from the start.

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This proposition will bear rigid investigation. Our guarantee is absolutely good, as we are financially responsible, and can carry out all our plans for planting this land to orchards.

References: Old National Bank and Traders National Bank, Spokane, Washington.

## Modern Irrigation and Land Company

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712—80 acres 7 miles north of White Salmon,  $3\frac{1}{2}$  miles of White Salmon River. A snap at only \$3,000; \$1,000 cash, balance 5 years, 8 per cent.

715—80 acres  $9\frac{1}{2}$  miles from White Salmon,  $\frac{1}{2}$  mile of White Salmon River,  $1\frac{1}{2}$  miles of Husum. Only \$50 per acre; half cash, balance 5 years, 8 per cent.

716—80 acres joining the above, forming a square 160 acres, at same price and terms.

For Bargains in Raw or Improved  
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(Successors to White Salmon Realty Co.)

perpetuate themselves, increasing in beauty for years.

As there is sometimes a little confusion as to the difference between narcissi and daffodils it will be in order to explain that all of the trumpet types of narcissi, of which there are three main groups, are known as "daffodils." The first group is the large trumpet type. The narcissus poeticus crossed with the large trumpet daffodils has given us the hybrids, such as the "chalice cupped" or star shaped daffodils, the Incomparabilis, Barrii and Leedsii types. These are of the second group, distinguished by the length of the cup, which is from a third to three-fourths the length of the perianth or petals. The third group has the cup less than one-fourth the length of the perianth—the best known examples being the poeticus types.

The large trumpet daffodils are the most popular, as they are the best known, and some of the finest garden varieties are of this class. They also force easily, making ideal pot plants.

Of the earliest large yellow single trumpet daffodils that can be grown in beds or naturalized, Golden Spur, Henry Irving and the Tenby daffodil, Obval-laris, are all splendid, graceful flowers, free blooming and distinctive. Follow-



POETICUS



LEEDSII TYPE  
MRS. LANGTRY



FIGARO  
SIR WATKIN  
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BI-COLOR  
EMPRESS

Incomparabilis Types

to arrange for an exhibition. From that moment the future of the daffodil was assured, and this popular favorite has since held its own as the most fashionable spring flower, its production and sale developing into one of the important industries of the British Isles and Holland. The entire world pays homage to the daffodil, and even in far away Australia the Melbourne Daffodil Show lasts for three days each season. Coming in endless variety, adapting themselves to every planting condition or requirement, their stately and delicate beauty, exquisite perfume, earliness, free blooming and keeping qualities endear them to all who have grown them. Once planted in the field or garden they need no further attention, but will thrive and

ing these come the fine old-fashioned double Von Sion, Telemonius Plenus, a grand free blooming, hardy variety that succeeds everywhere. The white Spanish daffodil, Albicans, and the Bicolor Victoria, with bright yellow trumpet, white perianth, a flower of great substance and delightful perfume, should follow the first flowers. After these Emperor, rich deep yellow, a magnificent large flower, and Bicolor Empress, with snowy perianth and yellow trumpet. All of these are inexpensive, easily obtainable and sure to give results, and when once planted need little or no attention, improving each year.

Two newer varieties of unusual merit are Madam de Graaf, a grand new white, and Glory of Leiden, a giant yellow of great beauty, of which the illustration at the head of this article is a photograph

of a five-inch pot of three bulbs. They are rather expensive as yet, but to anyone affording them they are well worth their cost.

The Chalice Cupped or Star Narcissi are the daintiest and most charming of all types. To this class belong the *Incomparabilis*, *Barrii* and *Leedsii* forms, all splendid garden varieties that also grow perfectly in pots.

The Giant Sir Watkin is one of the most popular, growing well under all conditions and naturalizing readily; has immense long stemmed flowers of a pleasing light yellow, large dark cup, tinted orange. *Incomparabilis Simplex*, *Barrii* *Conspicuous*, *Queen of England*, all are dainty and beautiful, grow well and are easily obtained. The Double *Incomparabilis*, or rose flowered types, *Silver Phoenix*, pale, creamy primrose, large and full, and the *Orange Phoenix*, double white with orange center, are sweet scented, very beautiful and attractive; medium early.

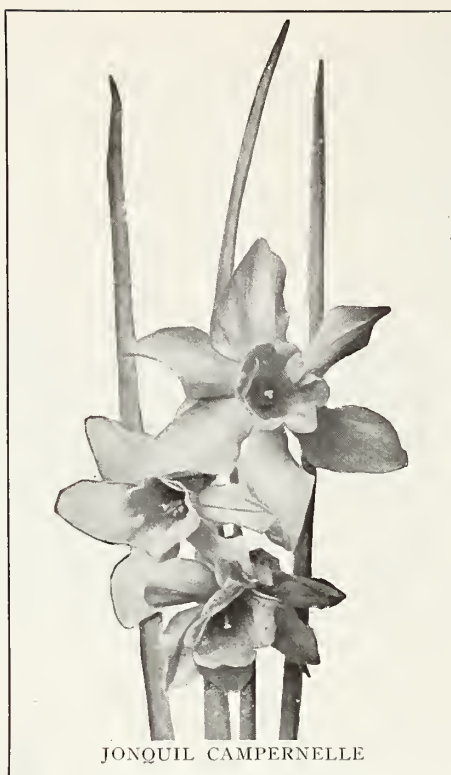
In planting daffodils shun symmetrical lines or formal designs. Large group-



NARCISSUS GRAND MONARQUE  
Polyanthus Type

ings of irregular outline give most satisfactory effects. In planting for naturalizing the popular way is to throw the bulbs over the ground by handfuls and plant them where they fall.

Daffodils should be planted in the early fall if possible, but plantings as late as Christmas will give excellent results. The depth to plant is about twice the depth of the bulb. This gives



a covering of two to four inches of soil. Any good garden soil which has not recently been manured will give satisfactory flowers, but a deep moist loam is best. If the ground is dry or sandy it should be dug deeply, well manured and an annual, such as potatoes, grown the year previous. If your soil is light and you do not want to take off a crop before planting, give a light dressing of lime to the surface and work in a layer of well rotted manure a foot below, so as to be out of reach of the bulbs. This layer is to hold the moisture, not as a fertilizer. The best fertilizer is ground bone. This can be used with safety. On poor sandy soil a little sulphate of potash, three-quarters of an ounce to the square yard, will improve the color of the flower and retain the moisture. The *Poeticus* varieties and the Double *Von Sion*, (*Telemonius Plenus*) prefer a moist location. The single trumpets and the yellow hybrids grow best on a moderately moist soil, while the white trumpet sorts and white hybrids succeed best on a cool, moderately dry soil.

Popular types of narcissi other than daffodils are the Polyanthus, or cluster flowered, of which the "Paper White" is the best known, growing in either water or soil, used extensively by florists. A number of fine Polyanthus varieties are obtainable for outdoor planting, such as the *Grand Monarque*, white with lemon cup; the *Pearl*, pure white; *Soliel d'Or*, rich yellow with orange cup.

The *Poeticus*, *Pheasant's Eye* and *Ornatus*, and the double *Alba Plena Odorato* are very desirable and distinctive, being among the most beautiful and lasting of narcissi. There is also the new type, a cross of the *Poeticus* and *Polyanthus*, known as the *Poetaz Narcissi*, a magnificent class, of which the varieties *Elvira*, a superb white flower with broad petals of great sub-

stance, yellow cup with scarlet edge, and the sulphur yellow *Irene*, of beautiful form with fluted petals, are the two best examples. The individual flowers approach the *Poeticus* in size and are borne in clusters. They are very vigorous and free blooming.

One bulb we should always grow is the *Jonquil*, single *Campernelle*, one of the most charming and sweet scented of the later bloomers, and is also one of the cheapest of bulbs, but, notwithstanding its cheapness, nothing is more beautiful or satisfactory.

There are many hundreds of narcissi and daffodils, but the varieties noted will give a sufficient and satisfactory assortment to choose from for a beginning, and the individual will soon select his favorites, and can then indulge without limitations other than his time and pocket-book.

The season for planting daffodils is from early fall until mid-winter, generally the earlier the better, and you should early secure catalogues from reliable firms, Western ones if you live in the West, and make your own selections, always remembering that expensive novelties are of more value to collectors, and that some varieties, being cheap, does not necessarily mean they are inferior. Therefore, content yourself with the better known dependable kinds. You will be encouraged by their success, and will learn to appreciate and care for them.

But for your own enlightenment and to make your flowers and garden more



DOUBLE  
VON LION

SINGLE  
GOLDEN SPUR

interesting and valuable, always plant named varieties, and mark them plainly; avoid mixtures and cheap collections. They are made to sell, not to grow, and are generally immature, inferior bulbs, dear at any price, no matter how attractive the offer.

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Offers for fall 1910 a complete line of nursery stock, including all the leading commercial varieties adapted to the Northwest. Our trees are all grown on the best whole roots and all buds and scions used are selected from bearing and tested trees, which insures not only early bearing, but trees true to name.

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Hood River, Oregon

## HARVEY BOLSTER SPRINGS



# VALUABLE INFORMATION ON WASHINGTON TREES

BY PROFESSOR W. S. THORNER, AGRICULTURAL EXPERIMENT STATION, PULLMAN, WASHINGTON

**D**URING the past fifteen years the State Experiment Station tested a number of shade, forest and ornamental trees on the college campus and in the station forest plots. As a result of these investigations much valuable information relative to the behavior of these trees has been compiled. These results entirely disprove the theories and advice of many early settlers, who feel that it is useless to plant trees as they will die anyway, or if you do plant there is nothing better to plant than the Lombardy poplar or box elder. The Lombardy poplar and box elder, as the early missionaries of introduced tree life, have served their purpose well, and now should give way to the more permanent and valuable trees. More than one hundred trees have proven themselves valuable for our conditions here in the state.

One of the most serious drawbacks to more general planting has been the difficulty of securing suitable stock at a reasonable price. This may be overcome in a measure by growing one's own trees. While this plan is not generally recommended it is feasible, especially where the farmer has a suitable piece of land and time to care for the plants. It usually costs more to grow them than equally as good or better trees can be bought for from the nursery.

Willows, cottonwoods and aspens can be easily propagated from cuttings made from the present year's growth taken any time while the trees are dormant. These cuttings should be about seven inches long, and if made in the fall should be stored until spring, or, better still, planted at once in the nursery. The only precaution necessary is to set them down to the top bud and make the soil very firm around their bases.

The seeds of most of our common trees, such as maples, ash, oak, catalpa, box elder, etc., ripening in the fall of the

year, should be gathered and mixed with an equal amount of sand, thoroughly moistened and stored in a cool cellar or on the north side of a building, where they will remain moist all winter long. Very early in spring they should be planted in nursery rows from one to two inches deep, and the soil packed very firmly around them. Another plan is to gather and plant at once, which is best where there is no danger of the seeds being molested by squirrels and birds, or being thrown out by the alternate freezing and thawing of winter weather.

The seeds of elm, red and white maple ripen the last of June and must be gathered and planted at once or mixed in moist sand or moss and kept moist until planting time, while box elder, catalpa, green and white ash may be gathered when ripe, dried out and stored in a dry, cool place and planted in spring.

The seeds of honey locust, black locust and the coffee bean tree are always slow to germinate unless hastened by scalding. When ready to plant these seeds pour boiling water over them and permit them to remain in it until the water has cooled. Sift or pick out the swollen seeds and repeat the operation for the remainder. Seeds treated in this manner must be planted at once in moist soil or they will soon perish.

Evergreen seeds require more care and skill than the deciduous trees. No one should attempt to grow evergreen seedlings who has not plenty of time and at least most of the conveniences for caring for them. The soil for the seed bed should be sandy and moist, available water for watering handy and some provision for shading. The more common plan is to plant the seed beds four feet wide and of indefinite length. Two or more beds may be established side by side with four-foot paths between them. Sow the seeds, making the soil very firm around them, and construct some sort of a shade that will cut off about one-half of the sun's rays. This may be lath frames set two feet above the beds, and covering only the beds or six feet above, and covering both the beds and the paths. The latter is the best, since it gives better air circulation and room to care for the young plants.

The transplanting of trees is always accompanied by greater or lesser danger of loss, or at least backset. This is caused by the loss of feeding roots, the drying of the bark of the roots, thus making activity impossible, or failure on the part of the planter to make the soil firm around the roots and thereby preventing wind injury to the newly formed rootlets.

Immediately upon receiving trees from the nursery, if they are moist and in good condition, heel in in moist soil. If the roots are dry and the top shriveled bury top roots and all in moist soil for a few days before planting. This will frequently save trees which ordinary treatment would not. When ready to plant dig the holes large enough to accommo-

date the roots without cramping and deep enough so that when the tree is transplanted it will stand from one to two inches deeper than it stood in the nursery. Prune off all injured or bruised parts of the roots in such manner that the cut ends will rest on the bottom of the hole, or at least will face downward. Place the tree in the hole in such a way that it will rest firmly on the bottom; now fill in with moist, rich soil until the hole is from one-third to one-half full, or at least until the roots are thoroughly covered, shake the tree slightly to work the soil among the roots and then get into the hole with both feet and tramp the soil until it is firm. If it is impossible to firm it with the feet use a piece of 2x4 six to eight feet long, the end of which should be padded, and tamp until firm. Now fill the hole and leave the surface loose and smooth, but never cloddy or covered with chunks of sod.

If water is to be used it is best to dig the holes from one to two days before planting and put from two to three gallons of water in each hole, permitting it to entirely soak away before planting, but never apply it to the surface of the ground around the trees after they are transplanted, as it will do more harm than good.

The roots of deciduous trees may become very dry and yet not suffer serious injury, but evergreens must never be permitted to dry, as they have resinous sap, which hardens when it dries out or comes in contact with the air, immediately killing the trees.

## "Hawkeye Tree Protector"

Protects your trees against rabbits, mice and other tree gnawers; also against cut worms, sun scald, and skinning by cultivation. Cost is but a trifle. The value of one tree is more than the cost of all the Hawkeye Protectors you will need. Write for prices and full description.

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**The Chas. H. Lilly Co. Seattle.**

Evergreen trees can be transplanted almost any month of the year, but the best results at the station have been secured by transplanting in spring just as the buds are beginning to expand, which is usually from the tenth of April to the first of May, or immediately after the spring growth has hardened, which is from the middle to the last of July. Trees transplanted during these seasons of the year have given universally good results. Deciduous trees must be transplanted during the fall after their wood has thoroughly ripened or very early in spring. Late spring planting in Eastern Washington is not at all satisfactory on account of the long dry summer, and should always be discouraged.

Nothing can take the place of clean culture for trees. Surface watering is worse than no water, and grass and weeds will permanently injure, if not kill, newly transplanted trees. If cultivation with horse tools is possible this is the best and most economical way to care for them. If this is not possible then hand raking and hoeing is the next best thing. If the trees stand alone on a lawn or park that is frequently watered it is best to keep the grass from growing closer than five or six feet and mulch this area with well rotted manure. By applying water to this mulch the ground cannot dry out and bake, the mulch serving the purpose of holding the moisture and adding fertility. Once or twice during the summer the mulch should be raked off and the soil forked over or spaded up thoroughly and then raked down again and the mulch put back. This is to make plant food available and keep the soil from becoming hard.

Every large farm in the Inland Empire should have its wood lot. A wood lot is to the farm what the work basket is to the wife, and while it may be given the poorest, hardest soil on the farm, yet at present prices for fuel and fence posts it will pay good interest on the best farm land in the country if carefully planted to trees that are adapted to the conditions and regularly cultivated for the first few years. By practicing a system of coppice work regular annual returns may be expected after the sixth year, and from that time forward posts, poles and fuel may be annually cut from the wood lot.

The following are a few trees that are extremely worthy of mention: The Norway and Sycamore maples are especially commended for general shade planting on account of their hardness, rapid growth, ability to stand drouth, good shade producing habits and general freedom from plant pests. The black locust, Carolina poplar and silver poplar are extremely valuable for very quick shade, wind breaks, etc., and should be used in all collections. The English maple, flowering ash, English oak and European linden have all produced such strikingly attractive trees on the campus that everyone who sees them admires them. These trees, while not so rapid of growth, make dense shade and are of great value for places where medium sized, attractive trees are desired. The cut-leaved weeping birch, hardy catalpa, golden willow and Colorado blue spruce are all so hardy and universally admired that no large lawn or park should be planted without one or more of these being included. The large wood producing ability of the European larch, white willow, cottonwood and black locust makes these trees very profitable to grow for post and fuel purposes.

From a long and varied experience we would suggest the planting of those trees mentioned in the following list for special purposes:

Large, rapid growing trees for street and shade: Black locust, Carolina poplar, silver poplar, cottonwood and Oregon maple. The last mentioned for west of the Cascades only.

Large, medium growing trees for street and shade: Sycamore maple, Norway maple, silver maple, Scotch elm, English oak, English maple, flowering ash, green ash, hackberry, box elder, black walnut, scarlet oak, European linden and horse chestnut.

Deciduous trees for lawn or park planting: Cut-leaved weeping birch, European linden, flowering ash, Wein's cut-leaved maple, Japanese chestnut, American hornbeam, English oak, scarlet oak, red maple, American mountain ash, white birch, European mountain ash, Bolles poplar, Lombardy poplar, golden willow, European larch, native thorn and hardy catalpa.

Evergreen trees for lawn and park planting: Colorado blue spruce, Norway spruce, Engelman's spruce, Black Hills spruce, Douglas fir, white fir, Irish juniper, Austrian pine, Scotch pine, dwarf mountain pine and giant cedar.

Best trees for single row wind breaks or tall screens: Lombardy poplar, white willow, apple, Douglas fir, Austrian pine, Scotch pine, box elder, Norway spruce and giant cedar.

The best trees for single row wind breaks or low screens: English maple, golden willow, American hornbeam, Engelman's spruce and white spruce.

The best trees to plant for fuel purposes: European larch, black locust, Austrian pine, white willow, cottonwood and white maple.

The best trees to plant on dry soil or in windy, exposed situations: Black locust, box elder, Russian wild olive, green ash, English maple, Black Hills spruce, Scotch pine, Austrian pine and Engelman's spruce.



#### Editor Better Fruit:

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Send for our handsome 104-page catalog. It tells about the right stock for this Coast. It is compiled and written by a man who knows. His twenty years' experience here enables him to do this and do it right. Some Eastern catalogs are more elaborate, but they are Eastern guides, not Western. Understand!

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We have modern cold storage facilities essential for the handling of your products

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Don't let your surplus fruits, etc., go to waste. Can them, the same as a large canning factory. Small investment, big profits. Easy to build up a profitable business of your own, on the farm.

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CATALOG  
Lilly's SEEDS  
1911

# USE

## Neutral Arsenate of Lead

A strictly neutral Arsenate of Lead is the only kind that should be used by growers on the Pacific Coast and irrigated sections. Any other kind is exceedingly dangerous.

*Sherwin-Williams New Process Arsenate of Lead is the highest possible type of this form of material.*

A Neutral Arsenate of Lead is the only form that can be safely combined with Lime-Sulfur Solution for summer spraying, and Sherwin-Williams New Process Arsenate of Lead is especially made for this purpose. An acid Arsenate of Lead when combined with Lime-Sulfur will cause severe burning.

Because of our special method of manufacture, this product has greater adhesiveness than any other combination of lead and arsenic. By reason of its complete and thorough combination it is affected very little by alkalies and will not poison the soil or trees.

Read the following extract regarding the value of a Neutral Arsenate of Lead, from a paper by Professor O. S. Watkins of the University of Illinois, read before the Fifty-fifth Annual Convention of the

February 23, 1911.  
Sherwin-Williams Company,  
Cleveland, Ohio:

My extended absence from home has prevented my answering your inquiry sooner. I am pleased to inform you that my last year's experience with your Arsenate of Lead spray has been very satisfactory. While the test made during the seasons of 1909 and 1910 was all that one could expect in controlling the codling moth, yet my last year's test was still better. My total loss (by actual count) of injured fruit was a little less than one-fifth of one per cent. My crop was about 8,000 boxes or bushels. I used your Arsenate of Lead four times:

First spray, just as the calyx was beginning to close.

Second spray, one month later.

Third spray, about three weeks later.

Fourth spray, three weeks later.

While my crop was practically free from injury by the moth, some of my neighbors who used other sprays, early applied, had a very heavy loss.

Yours sincerely,

A. I. Mason.  
Hood River, Oregon.

Illinois Horticultural Society,  
February 9, 1911:

"Chemically speaking, there are a number of Lead Arsenates; however, the two most common ones are the neutral and acid. The commercial brands are generally a mixture of the two, sometimes the acid predominating and vice versa. Only one, Sherwin-Williams, proved to be entirely neutral." In this test Sherwin-Williams Lead showed only 6.3% russet, while the next lowest showed 22%.

Because of its thorough combination with lead it never burns the foliage or russets the fruit.

Sherwin-Williams New Process Arsenate of Lead is endorsed as a high grade Neutral Arsenate of Lead by all leading disinterested authorities. Guaranteed under Insecticide Act of 1910.

## The Sherwin-Williams Co.

MAKERS OF HIGHEST GRADE  
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## You Need Your Sprayer Now

Many fruit growers wait till the last minute before deciding to buy a power sprayer. You should have your outfit now.

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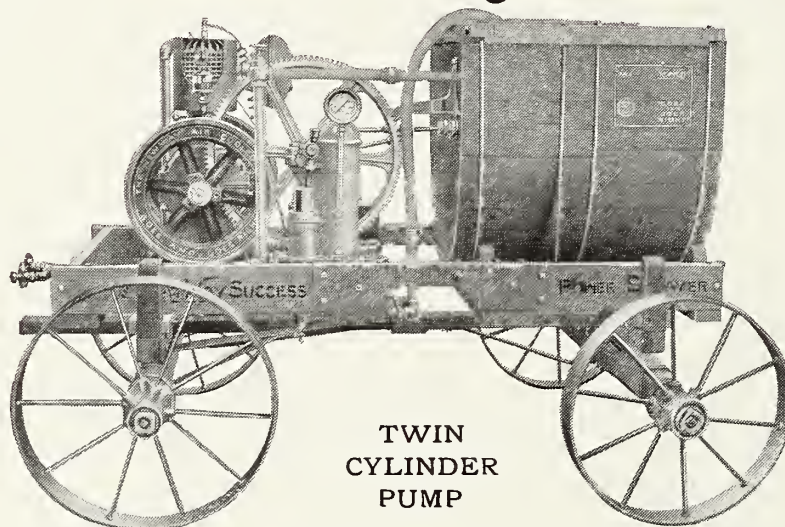
## WIRE US YOUR ORDER FOR THE "NEW-WAY" SUCCESS OUTFIT

We ship outfits same day orders arrive, while stock lasts. Last year we had to refuse late orders; couldn't fill them; no stock. Don't delay now.

## Why You Should Buy The "New-Way" Success

Light  
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Practical  
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Hillsides



TWIN  
CYLINDER  
PUMP

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Pressure

200  
Pounds  
Constantly

*The Engine is Most Important.* The "New Way" air cooled is a farm engine for every day in the year. Always ready to belt to other machinery. Steady, dependable, all day power for all day spraying.

*The Pump* has twin cylinders, outside packed plungers; repacked in a few minutes; no time lost. Constant 200 pound pressure; direct gear to engine and both on one base.

*The Tank* is clear cypress, holds 125 gallons. Solution is kept thoroughly mixed by mechanical agitator.

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GET YOUR ORDERS IN NOW FOR  
IMMEDIATE SHIPMENT

## John Deere Plow Co.

SAN FRANCISCO

PORTLAND

SPOKANE

Trade-Mark



Registered

# IMPORTED NURSERY STOCK IN GREAT DEMAND

BY J. B. BILKINGTON, OF THE PILKINTON NURSERY, PORTLAND, OREGON

**D**ISCUSSING this subject the thought suggests itself: How many nurserymen are aware of the extent of the importing business in the United States of foreign grown nursery stock, and how many orchardists know that their prized trees, bearing three-dollars-a-box apples, six-dollar pears, and cherry trees of such varieties as Lambert, Royal Ann and Bing are grafted or budded on seedlings "made in Germany"?

At the present time, when the demand for all kinds of nursery stock is the greatest known in history, it is reasonable to suppose that the foreign grower gets his share of the increased patronage; and by referring to statistics in the matter we find that in 1903 (or the season ending June 30th, 1903) the value of importations amounted to nearly one million four hundred thousand dollars. This amount has been increased yearly since that time until the season of 1909, when the value reached nearly two million dollars. Figures are not yet available for the season just past. When one stops to consider that these amounts represent values at the nurseries in Europe, and that on this imported stock there is paid a duty averaging more than twenty-five per cent, then the freight charges, it is an easy matter to figure that the laid-down cost of foreign nursery stock in the United States for the past season will range from three to four million dollars.

During the past year duties on foreign nursery stock were advanced somewhat, which will have the tendency to still further increase the cost of imported goods. It will also have a tendency to increase the home production of this class of stock. But when one realizes the scope of the nursery business and how hard it is for a nurseryman to grow everything he has call for it will eventually result in specializing. For instance, at the present time there are a number of rose nurseries in the United States. Other nurserymen give their exclusive attention to ornamentals, fruit trees, herbaceous stocks and other lines, any one of which is a business in itself. And if growers would confine themselves to one line rather than undertake to grow

a little of everything it would undoubtedly benefit the general trade so far as quality and production is concerned. The importation of foreign stock will continue just as long as there is a scarcity at home of the stock wanted; and, too, when large sizes are used that are two or three, up to ten years of age (and it is impossible to produce these in less time), it necessitates going to a foreign market, where these goods are to be had already grown.

As to the comparison between foreign and home-grown stock this is a matter that will have to work itself out. There are plenty of arguments on both sides of the question. Speaking from my experience, I have found that imported stock, particularly small stock—at the age of one or two years—has invariably reached me in good condition, and my losses in transplanting have been little or nothing, yet these same shipments might have been subjected to cold weather while in transit and the loss would have been great. Larger stock does not carry so well, and except to meet the immediate demand I would gladly discontinue the importation of same only that it requires several years to grow these things here, and patrons do not find small stock satisfactory for immediate results.

In fruit tree stocks my importations consist principally of apple, cherry, pear and Myrabolan plum seedlings, which are usually brought in when they are one year old.

Of the seedlings mentioned apple are the only ones that are extensively grown in the United States, and the product of apple seedlings in the Mississippi Valley exceeds the foreign production. Nurserymen generally prefer the home-grown to foreign seedlings.

In the June issue of the National Nurseryman there appears an article by a prominent American nurseryman who strongly favors imported stocks. His experience is based on a number of years' use of home-grown seedlings, but after experimenting placed an order last season for one million French grown apple seedlings. He attributes the superiority of imported stock over domestic to the fact that in Europe they have cheap expert labor. And herein I believe

lies the secret of the necessity of importing anything in the way of nursery stock other than new varieties. In Europe you will find that nursery workmen have been reared in the business, and when you find three generations working side by side the matter of competency and thoroughness cannot well be questioned. They are thorough, put in long hours and draw but small pay in comparison with wages paid in this country, so that there is a standard of uniformity and excellence in their work that as yet we are unable to duplicate. These nursery workmen are contented and satisfied, and probably have no other hope or expectation.

The supply usually seems adequate to the demand, although contributory causes, such as shortage of seed supply, drouth and floods, have their effect upon the output.

Importers who have been buying for a number of years past will also note that there has been a gradual increase in prices, which is always attributed to some unforeseen cause, but there is an impression that foreign growers who have supplied the American trade for years are beginning to learn the advantages of trusts and combines in the matter of securing better prices, and there is also a suspicion that Yankee shrewdness is invading the foreign field and the "corners" on the market are being worked upon the small American buyer. The result is that we are paying more for imported stock than formerly, and consequently we are also receiving more for our products. So this condition is not unreasonable, and for the future I see no ground for a decrease in importations, especially if we must continue to pay two dollars and upward a day for unskilled labor.

## J. F. LITTOOY

CONSULTING HORTICULTURIST

Orchard director, orchard schemes examined, orchard plans submitted, orchard soils and sites selected, nurseries visited and stock selected, values examined for farm loans, purchasing agent for land and orchard investments, acts as power of attorney in selection of Carey Act lands.

MOUNTAIN HOME, IDAHO

# ORCHARD YARN

For methods and advantages in using Orchard Yarn read the first article in December issue of "Better Fruit" by a world expert.

Tarred Orchard Yarn is used by the foremost growers in all sections.

Natural, practical, economical method of supporting heavily laden trees instead of props. Makes cultivation easier and does not chafe the limbs.

Testimony: More Yarn sold last year than all previous years combined. Sold by all dealers.

Manufactured and sold by

**THE PORTLAND CORDAGE COMPANY**

PORTLAND, OREGON

SEATTLE, WASHINGTON

# CONCERNING CO-OPERATIVE FRUIT ORGANIZATION

BY C. E. WHISLER, MEDFORD, OREGON

**T**HAT co-operation is the basis of good business, and that the more centralized the effort the greater is the measure of success attained, is becoming more and more recognized; but to obtain this result good business principles must be the basis of organization.

Organized effort may be as futile of desired results as is individual effort, and will be unless the principles of the organization are followed, and the better the understanding of those principles, together with the knowledge of the difficulties encountered, both within as well as without the organization, on the part of those who are attempting to co-operate the more is the assurance that those principles will be followed.

To help to a better understanding of the principles of co-operation as well as to show the need for the same is the purpose of this article.

It has long been understood that "In union there is strength"—but why? How does union promote strength? This is the day of big business. The larger the accumulation of business under one head the more cheaply it can be done, as well as being done with more efficiency, provided, always, that good methods are followed.

In the matter of fruit producers' organizations it is believed that as many, if not more, difficulties present themselves for adjustment than in an organization for the handling of any other product. The complications arising, owing to the nature of the product handled, are much more acute. For instance, the values of the product are more varied as well as being subject to more rapid changes in quality; also subject to more rapid changes of market values than almost any other product. This being true, it is essential that provision be made to meet these varying conditions, which, of course, become the basis of organization. Let us, therefore, notice the needs of organization. Without it each grower must act as agent for himself, both in buying his supplies and in selling his product. In the buying of his supplies it has long been established that purchases on a large scale can be made much more cheaply than on a small

scale: First, because it enables the large concerns from whom supplies are obtained to handle the same amount of goods much more cheaply. Thus by purchasing box material, wrapping paper, nails, spray material, etc., in carlot shipments the price of the supplies are greatly reduced. Second, because by handling in large quantities it enables them to handle a greater amount of goods with the same labor. That makes it possible, by co-operation, to purchase supplies in large quantities at reduced prices, and by dealing these out to the consumer it is possible, with a small fee to cover handling and expense charges, for him to obtain his supplies at a greatly reduced price from what he would have to pay were he purchasing direct. In the selling of his product he is still at much worse disadvantage. Again, the large concerns handling his product prefer to deal with large concerns for the same reason that the dealer in his supplies offers "big business."

Again, the individual shipper cannot so readily obtain that information needed, both with regard to prices and the supply on the markets of that food product with which his fruit comes the most directly into competition, all of which entails much labor and expense, and is essential to successful operation. The same requirements enter into both sides of his transaction, namely, "big business."

It is, therefore, evident that the smaller the grower the more he feels the need of organization, and a co-operative organization can only justify its existence by securing for him his supplies at the best minimum price and returning to him for his product the best possible maximum price. This is the "milk in the cocoanut." And to obtain this result requires the application of good business principles on the part of the operators as well as patience and forbearance on the part of the producers.

As the purchase of supplies is a simple matter and of minor importance compared with the handling of the product this article will waste no time with that question, but will attempt to deal at some length with the question of the marketing of the product.

Let it be remembered that every specimen of fruit going into the market does so in competition with every other specimen of the same kind of fruit, and not only so, but it goes in competition to a greater or lesser degree with every other food product.

To regulate competition among fruits of the same kind and to overcome competition of food products of other kinds is within the realm of good business, and to obtain that price for your fruit which truly measures its relative value as compared with all products with which it comes in competition is the right measure of successful effort. This brings us to a consideration of the nature of the product handled. Let us consider especially pears and apples: First, it is of a very perishable nature, extending in its life from but a few weeks to a few months at best. All of it must be consumed or decay within one year (unlike many manufactured food products, which can

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## White River Flour

Makes  
Whiter, Lighter  
Bread

APPLES

PLUMS

PEARS

PEACHES

PRUNES

## WHITE SALMON VALLEY THE LAND OF OPPORTUNITY

Located across the Columbia River from Hood River, Oregon, the White Salmon Valley offers the greatest opportunities of any land on earth to fruit growers.

**WHERE APPLES, CHERRIES, PEACHES, PEARS, PRUNES AND STRAWBERRIES GROW TO PERFECTION**

A few dollars invested in fruit land today will return to you in a very few years sixty-fold. The **SOIL, CLIMATE, WATER** and **SCENERY** are unsurpassed by that of any country.

We have bargains in orchard lands in and near White Salmon, also large and small bodies of timber land, cheap.

WRITE US FOR DESCRIPTIVE MATTER AND PRICES

**ESTES REALTY & INVESTMENT CO.**

White Salmon, Washington

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CHERRIES

STRAWBERRIES

NUTS

WE GUARANTEE RESULTS

# Crest Spray

A HEAVY MISCIBLE OIL FOR  
ORCHARDS AND GARDENS

An Effective

## EXTERMINATOR

of all

### Insect Life, Germs and Vermin

CREST SPRAY is the result of scientific and practical experiments by the best phytopathologists and chemists.

ANALYSIS: Tar and kindred products, Naphthal, Pyroligneous Acid, Douglas Fir Oil, Phenols, Creosote, Turpentine, Resin, Sulphur and Soda.

#### DIFFERS FROM OTHER SPRAYS

Crest Spray is a soluble or miscible oil and mixes readily with water. It remains in solution, forming an emulsion.

It is non-poisonous and harmless to operator.

Requires no boiling or preparation like the Lime-Sulphur.

Its use is a saving of time and money.

Home-made Lime-Sulphur costs from 1½ cents to 2 cents per gallon.

Crest Spray costs from 1½ cents to 3 cents per gallon.

A gallon of Crest Spray has a covering power almost twice as great as Lime-Sulphur, reducing the cost nearly one-half.

SCIENTIFIC, EFFECTIVE, CON-  
VENIENT, ECONOMICAL

#### PRICES:

Barrels, 25 or 50 gallons, per gallon	\$1.25
Five-gallon can, per gallon - -	1.35
One-gallon can, per gallon - -	1.50
Half-gallon can - - - -	.90
Quart can - - - -	.50
Pint can - - - -	.30

Testimonials sent on application

### Crest Chemical Co.

84 Bell Street

Seattle, U. S. A.

be held almost indefinitely). This makes the regulation of competition very difficult. Second, it is necessarily gathered within a period of approximately eight weeks and must be dealt out to the consuming public through a period of less than ten months. Third, the quality of the fruits is varied from year to year by the varying climatic conditions under which it is produced, even on the same soil, while different soils and different climates the variations become very acute.

Successful co-operation demands, therefore, first, that every participant be treated as every other participant in the organization; second, that provision be made for protecting the equities of the individual, that this protection should be embodied in a formula of working rules governing the action of both individual and officials, and should be accepted as the by-laws of the organization and considered by everyone as being as sacred and as inviolate as the "moral code;" third, full knowledge of all proceedings should be within easy accessibility of all participants. These should be sufficiently broad and wise in their provisions as to establish full confidence in their efficiency to obtain better results under co-operation than by individual effort because confidence is the bulwark of successful action.

Let us now look at the proposition of marketing. From 1895 to 1900 the average annual production of apples in the United States was 51,619,000 barrels, or 154,857,000 boxes; from 1905 to 1910 the average annual production in the United States was 26,844,000 barrels, or 70,532,000 boxes. All of these apples are gathered at practically the same time, consequently must be taken care of from the time of gathering until they have gone into consumption. This necessitates the consideration of loss in decay, of interest on capital invested in products and of expense in handling and holding of products. All this must be met somewhere.

Competition among products lowers the price of the product. To regulate the price is to first regulate the competition. This is accomplished by regu-

lating the offerings at any one time to meet the consumptive demand for the product. But to do this necessitates the consideration of the questions of decay. Of interest on capital invested in the product, and of handling and holding expense, and in co-operation these questions must be considered as relating to the holdings of the individual in proportion as his equities are to the total product handled by the organization, and in this way only can "every participant be treated as every other participant" and "full protection be given to the equities of the individual." Otherwise it necessarily follows that some would profit by better prices than others, which is not equality, while others would suffer loss in decay, interest on capital invested and expense of handling and holding product. This also is inequality. Therefore, to accomplish the best results under co-operation it is necessary that the product handled be considered as the property of the whole organization, but here comes the difficulty of adjusting the equities of the individual to the equities of the whole. Values of fruit are governed by the relative merit of the fruit of the same variety as well as by the relative merits as to other varieties, and, as before said, the merits are so varying that it is impossible to be exact, consequently some concessions must be made in the hope that the benefits derived by co-operation on the whole will overcome any losses by reason of the concessions made. This requires careful consideration, patience and forbearance, and further requires that there be strong continuity on the part of those endeavoring to co-operate. Shattered confidence invites disintegration and strict integrity on the part of all concerned, coupled with full publicity, is the best known preventive. Every member is fully entitled to a knowledge of the proceedings because he is a part of the organization itself, and the officers are but his servants to carry out his will. Therefore, he should consider the interest of the organization as the interest of himself, and should protect, and promote, and foster the interests of the organization through the principle of self-defense.

## Cupid Flour

Has same standing in the Flour trade that Hood River Apples have in the Fruit trade.

MADE BY

### HOOD RIVER MILLING CO.

## D. McDONALD

Hood River, Oregon

Headquarters for

FARMING AND ORCHARD

## TOOLS

Disc Harrow Extension for  
Orchard Cultivation a Specialty

When you want any kind of Orchard  
Tools come to me and get the Best

## Winfield Nursery, Winfield, Kansas

GROW TREES OF QUALITY

Their new work, Progressive Horticulture, fully illustrated, describes trees of quality in the making

## AMERICAN APPLE CONGRESS—AIMS AND OBJECTS

BY CLINTON L. OLIVER, SECRETARY, DENVER, COLORADO

ON the 15th of December, 1910, there assembled in Denver, Colorado, at the call of Governor Shafroth of Colorado, a body of delegates representing the apple industry of eight apple producing states. The object of this convention was to form an organization to be known as the American Apple Congress; this congress to have the following objects: First, to promote and diffuse knowledge concerning the apple industry on the American continent; second, to facilitate conference and deliberation among the people of the country concerning the growing and marketing of the apple crop and related interests; third, to provide means for bringing the needs of the people interested in the apple industry of the country before national and state governments; fourth, to provide ways and means for securing profitable legislation for the industry; fifth, to organize and maintain a "Transportation and Railroad Rates Bureau;" sixth, to maintain a "Continental Information Bureau on Crops, Markets and Fruit Movements," and, seventh, to promote and conduct apple expositions in connection with the congress. The most important work of the congress is that stated in objects fourth, fifth and sixth.

The legislative committee of the congress is composed of two people in each state, who have been elected by delegates from that state or appointed by the governor. It is the intention to make

this legislative bureau strong enough that should any occasion arise in which it would be necessary to send a committee to Washington to assist in passing or defeating beneficial or detrimental legislation the committee and the congress will be so supported financially and morally that this committee can be sent with all of its expenses paid.

It is intended to make the Transportation and Railroad Rates Bureau sufficiently strong so that it can successfully undertake to appear before the Interstate Commerce Commission or the traffic departments of the railroads and cope with any problem in over-charge, in weight, or rate, or neglect, or service.

The Information Bureau is to collect and distribute accurate information on crops, markets and fruit movements. The information this bureau will handle will be secured at first hand from the members of the organization in the various sections of the country, and will be distributed in confidential bulletins to

the members of the congress. There is nothing that will make the industry better than for each person interested to be accurately informed on the status of the industry in every section of the country.

The annual conventions or conferences are for the purpose of discussing the problems of the industry and outlining further work for the congress to perform. While the convention itself will be of great importance it will not compare for actual results with permanent work that will be done through the various departments and bureaus during the time between conventions.

Permanent headquarters for the congress have been opened in Denver, Colorado, and the work of organizing the various bureaus is well under way. Apple men from all over the country are becoming members, and assure the officers that they are willing to join hands in doing everything necessary to promote the interests of the industry.

◆ ◆ ◆

Editor Better Fruit:

My January number has not arrived and I can hardly keep house without "Better Fruit." Yours truly, E. E. Heston, Kimberly, Idaho.

## NEW RESIDENTS

We are always pleased to extend courteous assistance to new residents of Hood River and the Hood River Valley by advising them regarding any local conditions within our knowledge, and we afford every convenience for the transaction of their financial matters. New accounts are respectfully and cordially invited, and we guarantee satisfaction. Savings department in connection.

### HOOD RIVER BANKING AND TRUST COMPANY HOOD RIVER, OREGON

CAPITAL STOCK \$100,000 SURPLUS \$22,000

## FIRST NATIONAL BANK

HOOD RIVER, OREGON

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ESPECIAL ATTENTION AND CARE  
GIVEN TO BUSINESS DEALS  
FOR NON-RESIDENT CUSTOMERS

Thorough and Conservative

Assets over \$500,000

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LESLIE BUTLER, *President*  
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Established 1900  
Incorporated 1905

## Butler Banking Company

HOOD RIVER, OREGON

Capital Fully Paid \$50,000 Surplus and Profits over \$50,000

INTEREST PAID ON TIME DEPOSITS

We Give Special Attention to Good Farm Loans

If you have money to loan we will find you good real estate security, or if you want to borrow we can place your application in good hands, and we make no charge for this service.

THE OLDEST BANK IN HOOD RIVER VALLEY

## LADD & TILTON BANK

Established 1859

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Capital fully paid - - - - - \$1,000,000  
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R. S. Howard, Jr., *Assistant Cashier*  
J. W. Ladd, *Assistant Cashier*  
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Accounts of banks, firms, corporations and individuals solicited. Travelers' checks for sale, and drafts issued available in all countries of Europe.

# Montana Fruit Growers

AND OTHERS OF HIGH ALTITUDE

We are now ready to book your orders for fall and spring delivery of McIntosh Red and Wageners. For Northwest fruit growers in general, a full stock of all standard varieties — Spitzenbergs, Jonathans, Winesaps, Rome Beauties, etc., and all other kinds of fruit trees and shrubbery.

THIRTY-ONE YEARS IN BUSINESS

## MILTON NURSERY COMPANY

A. Miller & Sons, Incorporated

MILTON, OREGON

### SOMETHING NEW IN FRAMES FOR THE HOTBED

**H**OTBEDS and cold frames are used by professional gardeners for two objects: First, to get ahead of the weather; second, to get ahead of competition. They are used by the amateur gardener with the same two objects, but differently expressed, as follows: First, to create a bit of summer in winter time, and, second, to compel flowers and vegetables to come when they are a treat.

Whichever way you view it the main fact remains, that by growing plants in winter weather ready to set out half-grown in spring, just as soon as the ground will do, the gardener, whether professional or amateur, gains half the growing season.

If one wants these advantages from using sash he should get full measure by using the very best. The most modern sash are made to receive two layers of glass instead of one. These two layers enclose an air space five-eighths of an inch thick. This air space is dry and a non-conductor of either cold or heat. It

lets in the sunlight to warm up the bed and does not let the warmth out.

It does away with the use of boards or mats, and saves the labor of covering and uncovering cabbage, lettuce, cauliflower and any half hardy plants that are being grown. Even for tomatoes, peppers and other tender plants it is rarely necessary to put any extra covering on the two layers of glass.

Many thousands of these sash are in use by market gardeners and on private estates, and even in city yards throughout the country. They have been tested in every latitude from Middle Canada to Southern Florida, and have given such excellent results that the purchasers have written hundreds of letters praising them enthusiastically. These letters have been printed in pamphlet form for free distribution.

Especially noteworthy is a letter from H. B. Fullerton, the director of the Long Island Railroad Company's Experiment Station. Mr. Fullerton says:

"Double glass wins out. We have struck another good thing. It is the double glass sash for cold frames and hotbeds. We purchased a few for trial. We placed on contiguous beds this sash and a single glass sash and put in lettuce we had started out-of-doors late in the fall for trial purposes. The double glass gave us good heads for our home hampers just twenty days ahead of the single glass sash. Of course, the air space between the two glasses did the trick, preserving to a great extent the heat of the day, and hence keeping out the cold of the nights, acting on exactly the same principle as a double door or double window. These sash are regular size and are very cleverly constructed, needing no putty and being very readily slipped into their grooves, where they are firmly held by a special brass spring clip, which is furnished with the sash. They are a mighty good gap filler between the open air and the expensive, but necessary artificially heated greenhouse."

In a letter afterwards referring to the above report, Mr. Fullerton said:

"One item I omitted was our experience with radishes. Although Long Island seldom has a temperature drop below 24 degrees, we occasionally catch a bit of almost zero weather. One sudden drop after a heavy rain made conditions in our hotbeds and cold frames pretty serious and we lost practically all our radishes under the single glass sash, while those under the double glass sash were not injured in the least."

The double glass sash is a radically new idea in hotbeds and cold frames. It means more to gardenening than anything since the invention of the hotbed itself. It increases the size, quality and rapidity of growth of the plant, multiplies market values and profits for the gardener, and anticipates the seasons in rewarding all who prepare a little piece of ground and give it a trial.

Were it more expensive than the old style single layer it would still be a fine investment because it is a superior implement, but when one considers that it not only does such good work, but is made to last a lifetime, and that it saves the cost of boards and mats and the labor of handling them it is the most economical sash to use.—Wenatchee (Washington) Republic.

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Royal Ann, Bing and Lambert cherry trees; Spitzenberg and Newtown apple trees; Bartlett, Anjou and Comice pears, and other varieties of fruit trees.

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SCAPPOOSE, OREGON



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PRUNING SHEAR**

*Pat'd June 2, 1903.*

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**THE only**  
pruner  
made that cuts  
from both sides of  
the limb and does not  
bruise the bark. Made in  
all styles and sizes. We  
pay Express charges  
on all orders.  
Write for  
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Send and get our formula and method for destroying stumps. Cheap, simple and effective. Price \$5.00.

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APPLE LANDS \$40 PER ACRE. WARRANTY DEED AND ABSTRACT

ORCHARD TRACTS 10 TO 40 ACRES ADJOINING HUSTLING CITY OF WAYNESBORO  
On TWO railroads, 4 hours from Washington, D. C., 10 to New York City

FREIGHT RATE IS 8½ CENTS TO NEW YORK CITY ON BUSHEL BOX OF APPLES

Proved soils, growing Stayman Winesaps, Newtown Pippins, Grimes Golden, Winesaps, Yorks and Delicious. Excellent grape soil, and grows all garden vegetables. This land is practically FROST PROOF. Labor plentiful.

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Does to Buy It.

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Devoe Lime and Sulphur Solution

makes an impregnable line of defense against ravaging insects and other tree and plant enemies; pure, unadulterated, effective.

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We have had twenty-five years' experience making Cement Coated Nails, twenty years more than the makers of the "just as good" kind. Why not take advantage of our knowledge and always specify

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which are acknowledged to be the world's standard for making fruit boxes.

They cost no more, keg for keg, than the imitation.

Count and quality considered, they cost less.

No one thing has done so much to improve the standard of fruit boxes than the use of

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Boston, Massachusetts

A. C. RULOFSON CO.

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Pacific Coast Sales Agents

## A PROMINENT NORTHWESTERN FRUIT GROWER

THE president of the Northwestern Fruit Exchange of Portland, Oregon, Reginald Hascall Parsons, was born October 3, 1873, in Flushing, New York. In 1880 his family moved to Colorado Springs, Colorado.

Mr. Parsons received his education in private schools in the East and the University of California.

While living in Colorado Springs Mr. Parsons became interested in gold mining in the Cripple Creek district, which afforded an opportunity for a wide business experience. Subsequent to his residence in Colorado Mr. Parsons engaged in the manufacturing business with Bemis Brothers Bag Company at St. Louis. From St. Louis he went to San Francisco in the interest of the same company, and in 1904 removed to Seattle to establish a branch factory for the company. Mr. Parsons continued in the general management of the Seattle branch for several years, but the lure of the land was always strong in his veins, his ancestors for several generations having been engaged directly and indirectly in horticulture. It was natural, therefore, that this life should appeal to him, and he was particularly attracted to the Rogue River Valley, in Southern Oregon. He became the principal owner of one of the largest and finest orchards in America—the Hillcrest Orchard Company, at Medford, Oregon.

The Hillcrest orchard, valued at between \$400,000 and \$500,000, is one of the most famous in all the world, and its brands are in eager request in all of the principal consuming centers, being particularly well known in New York and London. The Hillcrest Orchard brand of Comice pears holds the world's record in price for car lots. A car of this brand was sold in London two years ago at an average of \$10.08 per box. This season a car of the same brand averaged \$10 per box. The Hillcrest orchard comprises two hundred acres, of which one hundred and ninety-two acres are in trees and one hundred and fifty-eight acres in bearing. There are one hundred and five acres of pears, including Bartletts, d'Anjous, Howells, Boscs, Winter Nelis and Comice, and the balance—eighty-seven acres—are in apples, the principal variety being Yellow Newtowns, and the balance Spitzenbergs and other red varieties. There are about 11,000 trees in this wonderful orchard, which is in the highest state of scientific cultivation. In Mr. Parsons' office at Hillcrest are found every modern feature of orchard record and accounting. There are maps of various kinds, some showing land contour, water and air drainage, etc., and others showing the location and variety of every tree of the eleven thousand. Mr. Parsons is working on a pathological record by which he will be able to trace the history of every tree in the orchard and keep a record of its bearing from year to year. The Hillcrest orchard has every modern mechanical appliance. Packing houses, fire system and barns were built on the most modern lines.

Mr. Parsons says modern orchardry is practically manufacturing, and his business is conducted accordingly. It is his ambition to have the Hillcrest orchard pass, undivided, to his children and his children's children. He is not a land promoter or real estate operator in any sense of the word, but a fruit grower first and last.

It became apparent to him very soon after becoming interested in fruit growing that the weakest side of the industry from the growers' standpoint was the assembling and marketing of the fruit. Realizing the difficulties of the individual



REGINALD HASCALL PARSONS  
President Northwestern Fruit Exchange

grower, no matter how large a producer he may be, in meeting the demands of the increasing supply of deciduous fruit produced in the Northwest, he became instrumental in the formation of the Rogue River Fruit and Produce Association at Medford. This step having been successfully taken, it became further apparent that without a consolidation of the common interests of the entire Northwest in some strong, practical central selling agency, it would be impossible to conduct the marketing of the fruit in a scientific and thorough manner. The elimination of wasteful competition was the main thing to be brought about, from the growing of the fruit to the final consumption of it. During the latter part of July, 1910, the Northwestern Fruit Exchange was organized, with Mr. Parsons as president and other prominent and public spirited fruit growers, representing other important producing districts in the Northwest, as officers and directors. The Exchange has met with phenomenal success, having been carefully organized and conducted with the view of effecting a wide distribution of the fruit, which would permit the avoidance of the crowded centers and thereby enable better prices to be obtained. About seven hundred cars were put at

the disposal of the Exchange during its first season by various fruit growers' associations, with results which have been universally gratifying to the growers. Mr. Parsons has cast his lot with the fruit growers and producers of the Northwest and is doing his best to aid in solving the problems connected with the industry. He has given a great deal of time to the direction of the Exchange and its success is largely due to his public spirited work.

In all of his previous business experience Mr. Parsons has shown his wide public spirit. He is a member of the Municipal League and Chamber of Commerce of Seattle and director in the Title Trust Company of that city. Before leaving Seattle for Medford he was chairman of the "City Beautiful" and a member of various municipal committees engaged in solving some of the more important municipal problems.

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"Larch" Apple Boxes and  
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We solicit your patronage

**Bridal Veil Lumbering Co.**  
Hood River, Oregon

## Washington Nursery News

MAY, 1911

Our big selling season for fall 1910 and spring 1911 is now history. We have had another record season of satisfied customers and are gratified beyond measure at the many compliments we have received for our stock.

We do not, however, forget the customer who may have a grievance, due to some matter over which neither of us have any control, and if there is anything unsatisfactory in any order at any time, we want to know it.

We appreciate the confidence and good will of our thousands of satisfied customers more than words can express. We want to merit their continued good will, and if fair, honest dealing will win and hold it we have no fears of losing ground.

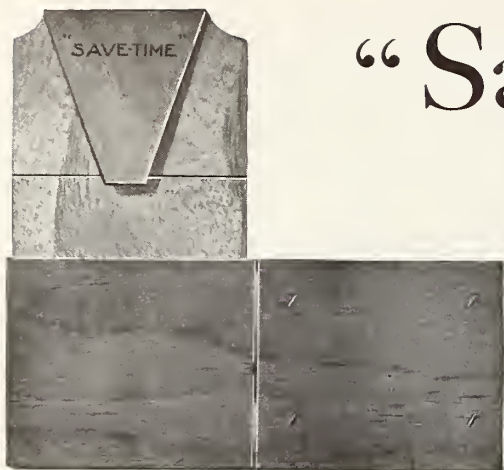
Our 1911 spring plant is looking fine at this date. We confidently look forward to the biggest and best stand of trees we have ever grown in Toppenish. We have our work well in hand and as usual are sparing no expense to grow the best trees that good soil, sunshine, cultivation and moisture will produce.

Our new catalog will soon be off the press. If interested drop us a line.

**Washington Nursery Co.**  
TOPPENISH, WASH.

Salesmen Everywhere

More Wanted



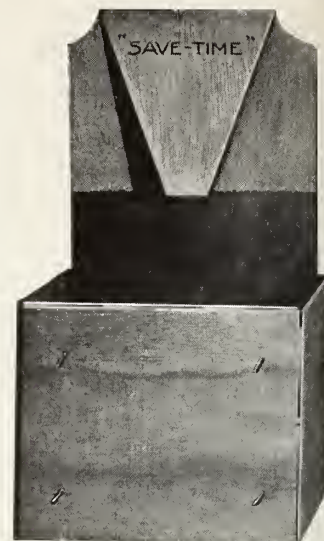
AS IT COMES FLAT

# "Save-Time"

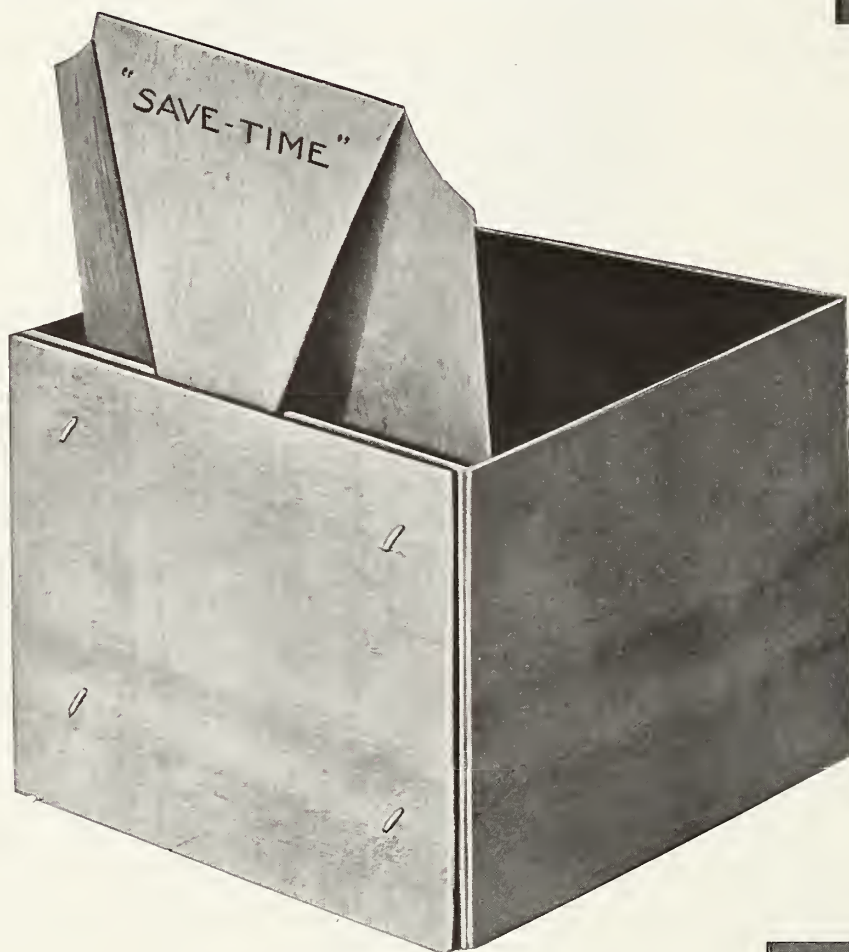
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## Folding Berry Box

Made from Pacific Coast Spruce



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DON'T STAPLE  
SAVE YOUR TIME  
WHEN YOU  
NEED IT

PICKERS WILL  
SET UP THIS BOX  
IT IS SO EASY

PACKED  
THREE BUNDLES  
TO A  
THOUSAND

ASK YOUR  
DEALER OR WRITE  
OUR AGENTS  
OR US AND DO IT  
EARLY

EASILY MADE UP

NO BREAKAGE  
OR WASTE

SOLID ONE-PIECE  
BOTTOM

VERY RIGID

NO STAPLES  
IN CONTACT WITH  
CONTENTS

REMAINS IN  
PERFECT POSITION

AS IT FASTENS DOWN

MANUFACTURED BY

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Agents Portland, Oregon, Territory:

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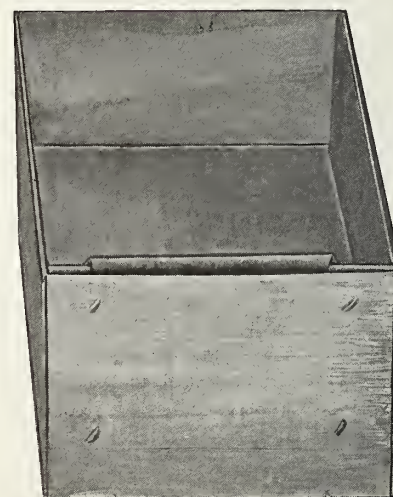
East Pine and Water Streets  
PORTLAND, OREGON

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WHEN WRITING ADVERTISERS MENTION BETTER FRUIT



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Study your problem, formulate your plans, get ready for Fall Planting. *I can help you.* I grow large quantities of standard commercial varieties of APPLE, PEAR, PRUNE, PEACH and CHERRY TREES; also NUTS, VINES and PLANTS. I have the largest and best assorted stock of

## *Ornamental Shrubs, Trees and Vines*

both deciduous and evergreen, in the Northwest. LANDSCAPE DEPARTMENT, in charge of Mr. Arthur L. Peck, fully equipped to meet all requirements.

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NURSERIES—On Columbia Boulevard,  
near Vancouver car line; at Durham and  
near Tualitin.

### PRUNING THE ORNAMENTAL TREES AND SHRUBS

BY J. J. THORNBUR, UNIVERSITY OF ARIZONIA

**T**HERE are few ornamental trees or shrubs that do not require occasional pruning or trimming at one season or another for their best growth and development. The extent of this, with certain exceptions, however, is often quite limited, and in this respect ornamental plants differ from fruit trees. Pruning is usually given too little attention by the amateur planter and home-maker, with the result that the task is put off as long as possible to be finally disposed of with little or no forethought at one "fell stroke," as it were, of the axe or saw, regardless of results.

It goes without saying that all newly set trees should have their branches cut back to correspond with the loss of roots incident to transplanting, though this does not mean that such trees are to be reduced to poles. At planting time all mutilated parts of roots should be removed, and on trees that are of considerable size, i. e., eight feet or so high, the main limbs should be cut back within twelve or fourteen inches of the trunk, the leader, of course, being retained. A sufficient number, varying with the kind of tree, of the more vigorous of these main limbs are left to form the framework of the crown. These should be disposed at nearly equal angles about the trunk, and not lie in the same horizontal plane. If handled in this manner such trees as ash, locust, mulberry, cottonwood and sycamore will need little

further attention for some years, and will usually develop into pleasing, symmetrical forms. When small trees are used considerable pruning is often needed in first few years after planting on account of excessive growth through climatic conditions, cultivation, enriched soil or extra water supply. This growth commonly manifests itself in watersprouts, over-development of the head, causing top-heaviness and leaning, or in extra growth in occasional vigorous branches in one part of the plant or another, all of which tend to destroy the otherwise natural form or symmetry of the tree, unless corrected by careful pruning. The much planted and justly popular pepper tree is a notable example of the above, due partly to its soft, yielding wood. On this account, during its first years, cutting back and thinning out of the crown is necessary in addition, to secure bracing of the trunk.

It is justifiable at times to resort to topping in the case of shade trees to induce a denser growth, or where trees have become too tall to be in harmony with their surroundings, though this latter condition is not common in our region of extremely strong light, and sometimes scant supply of plant food. Such pruning, however, should be done with deliberation as to effects desired. Dead or unhealthy branches, or those broken by storms, should be removed speedily, and if necessary the remaining

top or crown reduced sufficiently to insure reasonable uniformity later. Slow growing or unhealthy trees are often encouraged to make vigorous growths by judicious pruning, in connection, of course, with other proper care. Open-headed trees may be made to grow more compact by heading in, while a gradual thinning out of the inner branches corrects trees with too dense or compact heads. Likewise those that are non-symmetrical can be worked into symmetrical trees by removing the abnormal parts, though such treatment is more effective in the earlier training of the plant. As trees get older it becomes necessary to cut out some of the inner branches to open up the crown, thereby overcoming a crowded or brushy appearance, and providing for continued symmetrical development of the tree as a whole. The numerous dead limbs in the centers of even healthy trees are excellent witnesses to this fact.

### HAVE YOU SEEN MASS-O-SPRAY

The New Nozzle that throws a solid cone spray instead of a hollow one? Takes any nozzle's place. Has all the power of the Bordeaux. They all say

"SHE'S A BEAUTY"

Send 75c in stamps or money order for a sample. Regular price \$1.00. "Munybak" if not satisfied. But we are dead safe there. You *will* be! Say! Don't forget we have some other brand-new things, too. Write! Agents wanted.

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our excellent and modern  
exuipment, skillfully man-  
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**Superior Work at a  
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A commercial orchard is a good income producer while you live, the best real estate agent you ever had when you are ready to sell, and a valuable asset to leave to your widow and orphans when you have reached the end of life's journey.

If an old reliable nursery is of any specific importance to the prospective planter, we kindly ask you to consider with us before buying your trees.

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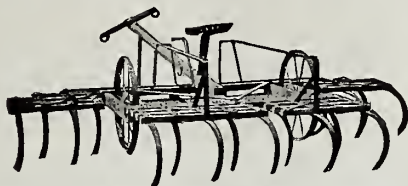
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is the only perfect light-running wheel cultivator ever offered for orchard work. Each section is so easily manipulated with levers that a small boy can operate it and cultivate perfectly 30 acres per day with one team of medium weight. With this harrow one team can easily do the work of two teams with ordinary harrows. Works well in stumpy or stony land and does not clog with loose grass, roots, etc. Its extension of 11 feet, 3½ feet each side of the team, enables perfect dust mulching near the tree trunks without disturbing the branches or fruit, and eliminates the use of the hoe. One machine will work 100 acres of orchard and keep it in garden tilth. These machines are labor savers and will reduce your cultivating expense one-half, even if you have but five or ten acres of orchard. Write today for prices. LIGHT DRAFT HARROW COMPANY, Marshalltown, Iowa.

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It lifts the latchkey of your neighbor, though he be miles away by the highway.

It aids you in fire and accident—saves time and money.

But it must be a reliable, efficient telephone.

Get the best telephone made—it's good economy—experience proves it.

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Write to us for information and prices. Farm telephone bulletins mailed on request.

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Manufacturers of Standard Telephone Equipment



## The Right Paint For This Spring

You can't afford to let your house stand exposed till oil drops in price. The way things look now, the buildings would be paint-hungry before that time comes.

Get the cost of 100 pounds "Dutch Boy Painter" White Lead, 4 gallons pure linseed oil, 1 gallon turpentine, 1 pint turpentine drier—this makes 8 gallons of pure white lead paint. Divide by 8 for the price per gallon and compare this with the price of any other paint you'd think of using.

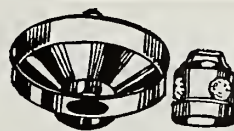
You'll find that the best is the cheapest; also that, after all, the increase in the cost of "Dutch Boy Painter" White Lead made-to-order paint is trifling.

Write for our free "Helps No. 430"  
It answers all paint questions.

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New York Boston Buffalo Cincinnati Chicago  
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Milk Cans made of tinned steel plate. The kind that are inspected after every operation while in process of manufacture. The kind that stand the wear and tear and give satisfaction—the best. We are agents for both the **STURGES** and the **BUHL MILK CANS** because these makes are known to make good.

Send for special booklet.

### MUNROE & CRISELL

Selling Agents

Portland, Oregon



## THE GROWING OF EVERGREENS FROM THE SEED

BY PROFESSOR B. O. LONGYEAR, COLORADO AGRICULTURAL COLLEGE

A NUMBER of persons in Colorado are interested in the growing of forest and shade trees from seed for planting on the farm or around the home. To those who contemplate undertaking such work during the coming spring Professor B. O. Longyear of the Colorado Agricultural College gives a few simple directions.

Most of the native evergreens can be quite readily grown in ordinary good garden soil, especially if somewhat sandy. Seeds may be planted about the same as onion seed, in carefully prepared beds, which should have some slight shelter from drying winds and too hot sunshine.

For growing a few hundred seedlings a bed four by six feet should suffice. Boards ten inches wide, set on edge around the bed, will offer good shelter from severe winds and will give support to a screen of lath or brush, which is often desirable in growing these seedlings. The seeds may be covered with about one-fourth to one-half inch of finely pulverized, sandy soil. The larger the seeds the deeper they should be covered. The seeds may be sown in drills about six inches apart, putting seeds one inch apart in the rows. This facilitates the matter of weeding and cultivating them, which must be done by hand. Firm the soil down with a piece of board and water with a sprinkling pot whenever it becomes dry. When the young seedlings appear considerable care is necessary to prevent the soil from becoming too moist on the surface, although it should not be allowed to dry out below. This is best managed by watering the plants only during the middle of the day, so that the surface

will have an opportunity to dry off. Keep the seed bed perfectly free from weeds, and during the hottest days a slight shading by means of an open lath screen or brush laid across the seed bed frame will be desirable. Most evergreens grow very slowly at first, and will not be ready to plant out in nursery rows until two years old.

In the autumn of the first year, after the growing season is past, it is well to mulch the little trees with dead leaves or fine straw, but do not allow the mulch to pack down onto them, which will often lead to smothering. The seedlings should be grown in the seed bed during the second season, but will require less shading than during the first year. On cloudy, damp days no shade whatever should be given, and in the case of the yellow pine very little, if any, shade is needed during any period of the growth of the trees.

The little trees may be transplanted into nursery rows the beginning of the third growing season. They should be set eight or ten inches apart, in rows two feet apart, where they may be cultivated the same as a crop of corn for two or three years more, when they should be large enough to transplant into permanent quarters.

Great care should be exercised in all cases in transplanting evergreens to avoid drying of the roots. The growing of evergreens in this way is rather particular work, and should not be undertaken unless one has the time and patience to give the best of care and wait for results. Otherwise it is usually cheaper and better to buy the nursery grown stock.



## NIAGARA BRAND Lime-Sulphur Spray

TIME FOR SECOND SPRAYING  
THE CALYX SPRAY

### Niagara Brand Lime-Sulphur

has proven to be the very best calyx spray ever put on the market.

### CALYX SPRAYING

is of great importance. It must be done at just the right time—as soon as the blossoms fall.

Be sure of a fine crop of Apples—Use NIAGARA BRAND LIME-SULPHUR SPRAY as a calyx spray—now.

Write for interesting booklet of important information, "Successful Spraying."

We are agents for the famous Bean Spraying Machinery. Niagara and Triangle Brands of Arsenate of Lead are the very best.

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P. O. Box 74A Hood River, Oregon

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Into the splendid advantages offered in MOSIER, OREGON, before deciding on a location in any other apple country.

MOSIER is six miles east of Hood River, on the main line of the Oregon-Washington Railroad and Navigation Company and on the Columbia River.

MOSIER has the same splendid climate, the same kind of marketing facilities, and received the same prices for apples and other fruit as Hood River.

MOSIER land may be had for from \$50 to \$150 per acre raw, and equally low prices for improved.

Address or see

D. D. HAIL, MOSIER, OREGON

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*We have installed the only etching machines in the State of Oregon*  
*Blast etched cuts have a printing quality which has never before been obtainable with process engraved plates . . . . .*  
**THEY COST THE SAME AS THE OTHER KIND**

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# STUDIES FOR THE STUDENTS OF POLLENATION

BY PROFESSOR C. I. LEWIS, AGRICULTURAL COLLEGE, CORVALLIS, OREGON

FOR nearly five years the department of horticulture at the Oregon Experiment Station has been conducting pollination studies of the apple and pear. In February, 1909, we published Bulletin No. 104, giving the results of our work up to that time.

Since publishing Bulletin No. 104 we have been conducting extensive experiments. For the past two years Mr. E. J. Kraus, who has charge of my research work in horticulture, has been co-operating with myself and we have arrived at certain definite conclusions, presented in this article.

The fruit grower is not much interested in the technique of pollination, but to those who wish to take up this work I will state in brief that you cannot be too careful. The emasculation of the anther must be done before the blossoms open. The blossoms should be carefully covered with paper bags until fecundation has taken place. Pollen can be nicely ripened by picking the twig a little early and placing in fruit jars in a warm place. The anthers can soon after be gathered and placed in a dish in a warm room, and after ripening the pollen can be collected. A little camel's hair brush is as good as anything to use in transferring the pollen.

It has been thought by many fruit growers that pollen was transmitted through the air by means of strong winds and air currents. Our work here shows that this is not the case. We have found that very little pollen of either the apple or pear is transferred in the air currents. Our best friend in the pollination work is the bee. Flying from flower to flower, they transfer the pollen with good results. They are attracted to the flowers by the bright colored petals. We demonstrated that were the petals removed few bees would be attracted to the tree. In one case only five apples set out of fifteen hundred blossoms that had the petals removed. Very few bees visited the tree. Fruit growers cannot emphasize too strongly the necessity and desirability of having bees in the vicinity of the orchard.

In taking up our pollination studies our main aim and desire was to find the cause of sterility. In determining this cause we have worked on many problems of vital interest to the growers, such as a list of the sterile and self-fertile varieties, the mutual affinity of these varieties and the relation of the pollen to the seedling fruit, etc. Our first step was to determine what varieties were sterile and what were fertile. By the word sterile we mean fruits that do not set fruit with their own pollen. By self-fertile we mean fruits which set good profitable fruit with their own pollen. We have worked with eighty-seven varieties of apples and a large number of pears to determine their sterility and their fertility.

The following table gives the results of this study as it concerns the apple:

## SELF-STERILE AND SELF-FERTILE VARIETIES

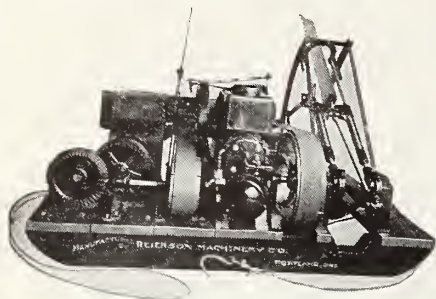
Variety	No. Bags	No. Set Hand Pollen	No. Set Bag Pollen	Total Fruits Set	Pollen Bearers
Arkansas Black	100	None	None	None	Medium
Autumn Sweet	50	None	None	None	Medium
Baldwin	200	5	9	14	Medium
Bailey Sweet	100	17	6	23	Medium
Ben Davis	100	2	1	3	Medium
Bethlehemite	50	4	6	10	Abundant
Beitigheimer	50	None	None	None	Shy
Bellflower (yellow)	50	None	None	None	Medium
Bottle Greening	50	None	None	None	Medium
Kennedy Sweet	50	None	None	None	Medium
Canada Reinette	50	None	None	None	Abundant
Colvert	100	5	2	7	Shy
Canada Red	50	1	None	1	Medium
Delaware	100	None	None	None	Medium
Domine	100	None	None	None	Medium
Dutch Mignonette	50	None	None	None	Medium
Ewalt	100	None	None	None	Abundant
Early Strawberry	50	None	None	None	Abundant
Fall Wine	100	9	14	23	Shy
Fallowater	100	None	None	None	Medium
Fall Jeneing	100	2	1	3	Shy
Great Bearer	100	None	None	None	Medium
Grimes Golden	100	11	3	14	Shy
Gravenstein	50	None	None	None	Shy
Golden Sweet	100	None	None	None	Medium
Gano	50	None	None	None	Abundant
Green Sweet	100	None	None	None	Abundant
Hoovers Red	50	None	None	None	Medium
Haas	100	None	None	None	Abundant
Holland Beauty	50	None	None	None	Abundant
Holland Pippin	100	None	None	None	Abundant
Hydes Keeper	50	None	None	None	Medium
Handwell Souring	50	None	None	None	Abundant
Jonathan	200	None	None	None	Medium
Jewetts Red	50	1	2	2	Medium
King of Tompkins County	100	None	None	None	Abundant
Keswick Codling	50	24	16	40	Shy
Longfellow	100	13	14	27	Abundant
Limber Twig	100	None	None	None	Medium
May	100	None	None	None	Abundant
Melon	50	None	None	None	Medium
McMahon White	100	None	None	None	Shy
Melon Sweet	50	None	None	None	Medium
Munson Sweet	50	None	None	None	Shy
Maiden's Blush	100	None	None	None	Medium
Missouri Pippin	50	None	None	None	Medium
Mammoth Black Twig	100	None	None	None	Abundant
Mann	100	2	None	2	Abundant
Montreal Beauty (crab)	100	None	None	None	Medium
Newtown	100	41	25	66	Medium
Ortley	100	None	None	None	Medium
Oldenberg	100	3	2	5	Medium
Paradise Sweet	100	None	None	None	Medium
Pumpkin Russett	100	8	8	16	Medium
Pryors Red	50	2	None	2	Abundant
Pewaukee	50	None	None	None	Medium
Red Golden Pippin	50	None	None	None	Medium
Rambo	100	1	1	2	Shy
Romanite	100	None	None	None	Abundant
Rome Beauty	100	None	None	None	Abundant
Red Cheeked Pippin	100	None	None	None	Medium
Ralls	100	None	None	None	Medium
Rhode Island Greening	100	None	None	None	Medium
Sweet Bough	50	None	None	None	Medium
St. Lawrence	100	None	None	None	Medium
Stark	100	1	None	1	Medium
Salome	100	None	None	None	Medium
Scotts Winter	100	20	17	39	Medium
Summer Queen	100	None	None	None	Abundant
Shiwassee	100	11	12	23	Shy
Summer Pearmain	50	None	None	None	Shy
Steels Red	50	None	None	None	Medium
Spitzenberg	100	3	4	7	Medium
Talmans Sweet	100	None	None	None	Abundant
Transcendent (crab)	100	None	None	None	Shy
Trumbull Sweet	100	None	None	None	Abundant
Twenty Ounce	100	None	None	None	Abundant
Wagener	50	2	1	3	Abundant
Western Beauty	50	None	None	None	Shy
Washington	50	5	2	7	Medium
White Pippin	100	11	15	26	Shy
Willow Twig	50	1	1	2	Medium
Wealthy	50	None	None	None	Medium
Whitneys Crab	100	1	3	4	Medium
Winesap	100	None	None	None	Shy
York Imperial	100	None	None	None	Abundant
Yellow Transparent	25	1	1	2	Shy

Table gives fertile and sterile varieties, and also their pollen-bearing qualities.

The following is a list of the sterile varieties: Autumn Sweet, Arkansas Black, Beitigheimer, Bellflower, (yellow), Bottle Greening, Canada Sweet, Canada Reinette, Delaware, Domine, Dutch Mignonette, Ewalt, Early Strawberry, Fallwater, Grape Bearer, Gravenstein, Golden Sweet, Gano, Green Sweet, Hoover's Red, Haas, Holland Pippin, Holland Beauty, Hydes Keeper, Handwell Souring, Jonathan, King of Tomp-

kins County, Limber Twig, May, Melon Sweet, Munson's Sweet, Maiden's Blush, Montreal Beauty, Missouri Pippin, Ortley, Paradise Sweet, Pewaukee, Red Golden Pippin, Red Cheeked Pippin (Monmouth Pippin), Romanite, Rome Beauty, Ralls, Rhode Island Greening, Sweet Bough, St. Lawrence, Salome, Summer Queen, Summer Pearmain, Talmans Sweet, Steel's Red, Transcendent Crab, Trumbull Sweet, Twenty Ounce, Western Beauty, Wealthy, Winesap and York Imperial.

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The following is a list of the self-fertile varieties: Baldwin, Bailey's Sweet, Bethlehemite, Colvert, Fallwine, Grimes Golden, Keswick Codling, Longfellow, Oldenberg (Dutchess of), Pumpkin Russett, Scott's Winter, Shiwassee, Washington, White Pippin, Yellow Newtown.

The following is a list of the partially self-fertile varieties: Ben Davis, Canada Red, Fall Jeneting, Jewett's Red, Mann, Pryor's Red, Rambo, Stark, Spitzenberg, Wagener, Willow Twig, Whitney's Crab, Yellow Transparent.

Concerning this list of partially self-fertile varieties I will state that they are in some cases never fertile. The Spitzenberg apple, for example, set only three apples, none of which were of standard size. One of the chief problems we have

taken up is to find the best pollenizer for the sterile or nearly sterile varieties, such as the Spitzenberg. We have found that a large number of varieties will cross with the Spitzenberg, such as Newtown, Arkansas Black, Jonathan, Baldwin, Ortley, Stark, Black Twig, King of Tompkins County, York Imperial, Delicious.

There were many others, but most of them not of commercial importance in the Northwest.

We have been working out whether or not it was feasible to plant Yellow Newtowns and Jonathans together to see whether these varieties crossed in any way. Our results show that these can be planted together very nicely.

Our next line of work was to take up some self-fertile varieties like the Yellow Newtown and to find if they would be improved by crossing. The first two years we crossed the Yellow Newtown with a large number of varieties, and in both the Hood River district and the Willamette Valley we found the apple was greatly improved by crossing such varieties as Grimes Golden and Ortley. The crossed apples gave a large percentage of fruit set and also gave a better average size than those self-pollinated with Newtown pollen. The work in the Rogue River Valley seems to show that the Newtown was not as greatly improved by crossing with such varieties as Grimes Golden and Ortley. The last two years, however, we have obtained splendid results not only in the Rogue River Valley but elsewhere by crossing the Newtown with White Winter Pearmain pollen. Not only has the Winter Pearmain proved successful on the Newtown, but has done well on all varieties on which we have tried it. This is a fruit of splendid vitality. Not only is this vitality shown in the set of fruit, but also in the seedling of the White Winter Pearmain, which is very strong and sturdy. This leads me to the statement that a variety may have a good influence not only in producing good fruit, but, on the other hand, it may have poor vitality and give negative results. The Ben Davis, of poor vitality, is a poor male parent. Its crosses seem to be lacking in vitality. As example, comparing the vitality of the Ben Davis and Yellow Newtown, we chose the Hubbardson Nonesuch as one of the varieties

we desired to work. When crossing the Hubbardson Nonesuch with the Ben Davis the fruits were inferior and smaller than when we crossed the Hubbardson Nonesuch with the Yellow Newtowns.

Many of the flat apples seem to have a poor influence in crossing, especially with such apples as Maiden's Blush, which would be typical of the class. The Winesap is a poor apple for pollination purposes, producing a small amount of pollen, and in some seasons it seems to be absolutely devoid of pollen. The Northern Spy, on the other hand, is more in the nature of the White Winter Pearmain. It has been a good pollenizer on all varieties on which we have tried it. In most cases we have not produced very marked results in the coloring of



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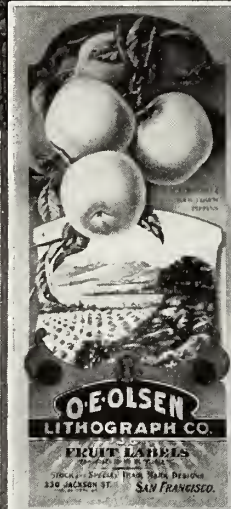
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the apple by crossing. Anything which appertains to vegetative vigor is greatly influenced. This includes the seedling, foliage, size and form of fruit; also the number of seeds that are set, and this in turn influences the weight of the fruit. In running over a large number of varieties we found that the increase of seed gives increase in weight of the fruit.

In planting varieties for pollination purposes you must pay attention to the blooming periods, it being desirable to plant varieties which are in full bloom at the same time. This blooming period will vary in the different valleys throughout the Northwest. As a rule you will not get much change in the order of blooming.

The following is a list of the early bloomers: Bethlehemite, Kennedy Sweet, Domine, Early Strawberry, Gravenstein, Grape Bearer, Haas, Handwell Souring, Longfellow, Limber Twig, Montreal Beauty (crab), Oldenberg (Dutchess of), Mann, Oregon Crab, Red Astrichan, Ortley, Stark, Tetosky, Transcendent (crab), Wolf River, Wealthy and Whitney (crab).

The following is a list of the late bloomers: Arkansas Black, Autumn Sweet, Bailey's Sweet, Beitigheimer, Bottle Greening, Ben Davis, Baldwin, Canada Reinette, Canada Red, Charlottenhaler, Colvert, Dutch Mignonette, Delaware, Ewalt, Fameuse, Gano, Fall Jeneting, Green Sweet, Holland Beauty, Hyslop (crab), Holland Pippin, Hyde's Keeper, Hoover's Red, Jonathan, Jewett's Red, King of Tompkins County, Keswick Codling, Kentucky Red Streak, Mammoth Black Twig, Martha (crab), Melon, Missouri Pippin, Melon Sweet, Maiden's Blush, McMahon's White, May, Munson's Sweet, Yellow Newtown, Northern Spy, Pewaukee, Paradise, Prior's Red, Pumpkin Russett, Ralls, Romanite, Rome Beauty, Rhode Island Greening, Rambo, Spitzenberg, Red Cheeked Pippin, Rock Pippin, Salome, Shiwassee, Steel's Red, Scott's Winter, Summer Queen, Sweet Bough, St. Lawrence, Twenty Ounce, Trimball Sweet, Talman Sweet, White Pippin, Washington, Walbridge, Western Beauty, Willow Twig, Wagener, Wine-sap, York Imperial, Yellow Transparent. In planting an orchard one has to con-

sider not only the blooming periods, but also the planting in large blocks. As a rule plant from four to six rows of a variety. This is better than alternating varieties when we consider the cost of maintaining an orchard, especially during picking, spraying, etc.

Concerning the relation of pollination to color will state that we have been able to detect very few instances where much change of color was shown, the changes being more or less along the vegetative line, such as vigor of seedling, size, etc., which would in turn change the vigor in the twigs, foliage, wood, etc. The seedling of a White Winter Pearmain in contrast with the Ben Davis are extremely marked.

We make from these studies on earth some vital problem along vitality of fruit trees, and it may be that in the near future we will pay more attention to the seedling for nursery stock as the basis for our investigation. Of all the characteristics of the fruit the first one seems to be affected by pollination in size, this becomes very marked.

In connection with our orchard studies with the flower we have also been conducting bud studies. We have been collecting buds throughout the year and are getting together a large amount of material which will be of great value in pruning, thinning, cause of sterility, etc. Concerning the time in which the flower buds are fully formed we have been unable to complete our laboratory studies of the material collected, but will state that they are certainly formed by the last of August, as all the buds collected at that time show that the fruit buds were formed. How much earlier we cannot state until we complete our laboratory studies, which we hope to do in the near future.

Concerning thinning will state that we have made several observations, especially with the Newtown apple and the Bartlett and Howell pears. We have found that if a pear is thinned from a spur the following season the same spur produces fruit rather than leaf or fruit buds. On yellow varieties of apples and most varieties of pears it would be feasible to allow two specimens to a fruit spur and remove all fruit from the remaining spurs. In this way only one-half the spurs would bear each year.



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Undoubtedly the time for bud formation will be influenced by the strength and vigor of the tree; also the variety.

Considering the relation of summer pruning to bud formation will state that our work the past two years shows that where severe summer pruning was practiced until the middle of July instead of producing fruitfulness the fruit buds were turned into leaf buds, or at least fruit bud formation was prevented. At the same season of the year, with light and judicious pruning, we were able to turn the buds which naturally formed leaf or shoot into fruit buds, or at least produced conditions in the tree that brought about the formation of the fruit buds.

Our conclusions on that subject would be that many of the growers are going at summer pruning too blindly and are overdoing the matter in a great many cases. Light summer pruning will have a greater effect on the fruitfulness of your trees. This will mean that we not only have to study the amount of pruning and the exact season of a single variety, but will need to investigate this subject as it concerns each individual variety. Some questions have come up as to just when the rudiments of the floral buds are well advanced.

Yellow Newtowns are well advanced by the first of February; how much earlier cannot be stated, as we have not examined all the material we have collected. This will be definitely concluded in the next two weeks.

Concerning the length of time blossoms will remain receptive after they open, or after emasculation, we know

that they are receptive for one week after blooming. This is a valuable point, as it shows when the bees can work on the blossoms. For scientific purposes the blossoms can be pollinated before they are entirely open.

We have been doing some very interesting work with the pear concerning the sterility and fertility of the leading varieties. Conditions here are much different than those in the East, the Comice being the only variety that is sterile. Bartlett, Winter Nelis and Bosc all will set with their own pollen. We have observed this, however, that pears are greatly improved by cross pollination. It has an influence in producing seed and in a strong degree changes the form of the fruit, especially is this true with the Bartlett and the Bosc. Certain varieties of pears show practically no difference in size and shape of fruit regardless of the pollen used, but the Howell and Winter Nelis are not of this class. Some

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Anjou, Bartlett, Comice, Idaho and Winter Nelis.

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varieties are injured by this process. The Bosc should not be crossed with the Bartlett, as the fruit so crossed is apt to be small and misshapen, but when crossed with Comice is large and fine. Concerning the best combination to plant with pears will state that the Bartlett and Anjou will do very nicely together. The Winter Nelis and Comice make a splendid combination. Any variety works with the Howell and Bosc does well with everything except the Bartlett. I would suggest that in planting a pear orchard the best plan to follow would be to set from four to six rows in the following order: Bartlett, Anjou, Winter Nelis, Bosc and Howell.

We are conducting experiments not only in Hood River, Rogue River and the Willamette Valley, but also outlined experiments to be conducted in the various sections in the Inland Empire, and within a year hope to publish information for the fruit growers of the Northwest that will be of great value. I shall be very grateful to receive from the growers of Washington any suggestions or observations they have made concerning this important subject of pollination.

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**FRUITS FOR NORTHERN OREGON.**—The best dozen kinds of tree, vine and bush fruits for growing in the lower altitudes of Morrow, Wasco, Gilliam, Umatilla, Sherman and Crook Counties, according to Professor C. I. Lewis, of the Oregon Agricultural College department of horticulture, an acknowledged authority on the subject, apples, pears, peaches, cherries, plums, prunes, grapes, strawberries, raspberries, blackberries, currants and gooseberries. "Orchard men in the lower altitudes of these counties," says Professor Lewis, "may safely make their selection for apple growing from the following seven varieties: The Yellow Transparent, Gravenstein, Jonathan, Winesap, Rome Beauty, Wagener, and, for spring use, the Ben Davis or Gano. Practically any commercial variety of pear will grow well here, including the Bartlett, Clapp's Favorite, Seckel, Anjou and Winter Nelis. Any of the standard varieties of the prunes and plums also may be used, such as the Italian, Hungarian and peach plum." The three varieties of sweet cherries recommended by Professor Lewis are the Lambert, Royal Ann and Bing; and a like number of sour cherries—the Early Richmond, English Morello and Olivette—are also named. But four peach varieties are recommended for the district—the Alexander, Early and Late Crawford and the Lemon Cling. "European varieties of grapes, such as the Muscat, Black Hamburg, Tokay and Rose of Peru, are generally covered in winter for protection," says Mr. Lewis. "American varieties which may be grown profitably here are the Worden, Concord, Niagara and Delaware. Clark's seedling is the best strawberry for these altitudes, though practically any of the early, medium or late varieties would yield a good family supply. The four raspberries I would recommend are the Cuthbert, Gregg, Marlboro and Cumberland. Lawton, Eldorado and Kittatinny blackberries; Fay, Cherry and White Grape currants, and Red Jacket, Champion and Industry gooseberries may also be grown well in the lower parts of the North-Central Oregon district."

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*Editor Better Fruit:*

We consider "Better Fruit" the most valuable paper issued for the fruit grower and dealer, and we highly recommend the same to all fruit growers. Yours truly, F. A. Hihn Company, Santa Cruz, California.

◆ ◆ ◆

*Editor Better Fruit:*

I look for the arrival of your paper each month, and enjoy every page of it. I wish it came once a week instead of once a month. Yours very truly, Harvey Thornber, Pullman, Washington.

◆ ◆ ◆

*Editor Better Fruit:*

I am much pleased with "Better Fruit," and must say that it should be a great help to the fruit growers in your section. Yours truly, Arthur Pugh, Madison, Wisconsin.

◆ ◆ ◆

*Editor Better Fruit:*

Your beautiful publication came to us today. It is a credit not only to your section of the country, but to the whole country. With the personal high regards of the writer, Emory C. Cook, Baltimore.

## Every Deming Sprayer Gets a Hard Test in Our Factory

We know, just as **you** do, that you can't afford to take any chances when you commence to spray your trees. The loss of a day, or even a few hours, when conditions are just right, may mean hundreds or thousands of dollars' loss to you, and such delay might occur at any time—often **does**, in fact—when an ordinary spray pump is used. That's why, every time we finish a

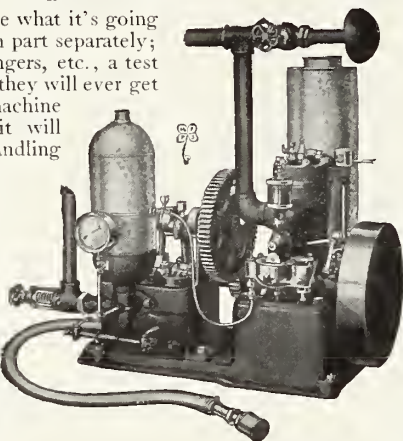
## Deming Spray Pump

we give it a *hard* test to see what it's going to do. We first try out each part separately; then we give cylinders, plungers, etc., a test under heavier pressure than they will ever get in actual use. Before the machine leaves us, we *know* that it will endure a lot more hard handling than you're likely to give it.

If such careful methods appeal to *you*, we'd like to send Catalogue and quote prices.

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where you want it.

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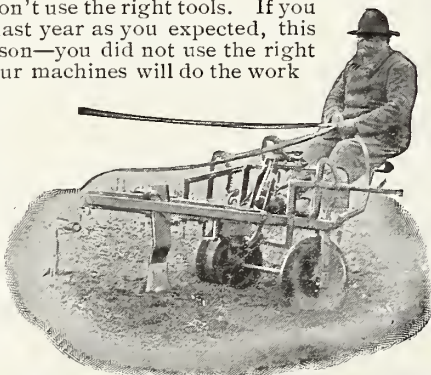
### The Original One-Man Machine

The 20th Century weighs but 600 pounds. One man with two or four horses operates it. Turns in 10-foot circle. Does twice the work of the big, heavy grader with four horses with half the effort.

Mr. Fruit Grower—you can't expect big returns from your work if you don't use the right tools. If you did not do as well last year as you expected, this is probably the reason—you did not use the right tools. If one of your machines will do the work of several expensive ones it means bigger profits at the end of the year.

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1909—Tronson & Guthrie, Eagle Point, Oregon.

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All sprayed with Grasselli Arsenate of Lead.

Bear in mind that this material was used at three different points, and during three different seasons. Does this not demonstrate to your satisfaction the superiority of Grasselli Arsenate of Lead, both as to locality and climate in which it may be used?

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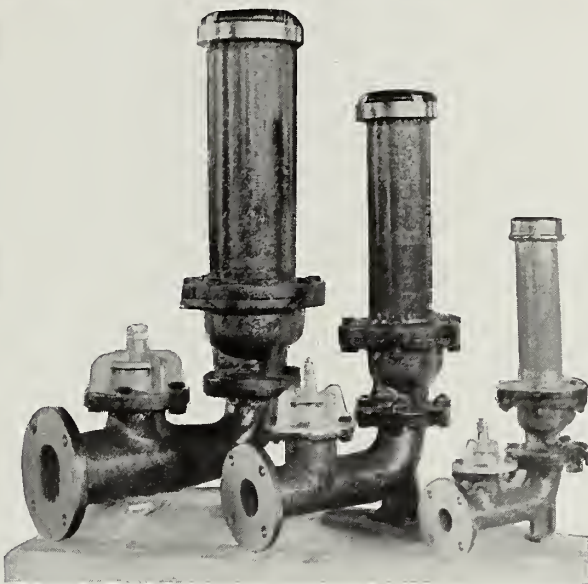
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Chicago, Illinois.....2235 Union Court  
New York City.....60 Wall Street  
St. Louis, Missouri.....112 Ferry Street  
New Orleans, Louisiana.....Godchaux Building  
Cincinnati, Ohio.....Pearl and Eggleston Streets  
Birmingham, Alabama.....825 Woodward Building  
Detroit, Michigan.....Atwater and Randolph Streets

**COLLEGE TO FIGHT ORCHARD PESTS.**  
A big campaign against the pests which destroy orchards in Oregon is to be started shortly by six experts from the State Agricultural College, in accordance with the legislative bill providing funds for such work. Under the direction of Dean A. B. Cordley, of the college of agriculture; Professor C. I. Lewis, of the horticultural department, and Professor H. S. Jackson, of the entomology department, the college will establish division headquarters in the principal fruit centers of the state—Portland, Salem, Eugene, Roseburg, and perhaps Milton—and from there the investigations will extend over the entire state. This is not the first work of the sort done by the college, though it is the first state-wide campaign against all kinds of pests. Many thousands of dollars have been saved the orchard men of Oregon by the timely advice of the professors. The thirty-five-acre apple orchard of Eisman Brothers, near Grants Pass, was so badly diseased with anthracnose in 1901 that they were about to dig it up. Every tree was diseased with the fungus, and nearly half of the tops were dead or dying. The vitality of the orchard was so low that it did not produce enough apples to pay expenses. Though the owners worked hard cutting dead wood and dead spots the fungus continued to gain on them. They tried a bordeaux mixture spray, suggested by Dean Cordley, in the fall before the leaves were off, with immediate and pronounced benefit. Continued fall sprayings resulted in a production of 10,000 boxes of as fine, clean, healthy four-tier apples four years after as could be produced anywhere in the United States. They sold 7,000 boxes of four-tier Yellow Newtowns and Spitzenbergs at \$1.50 a box and 3,000 boxes of Ben Davis and Winesaps, giving a gross receipt of \$15,250 from the orchard they had been ready to dig out. William Hellwell, of Yoncalla, Douglas County, had a similar experience with fall spraying for anthracnose, commonly known as "canker," "dead spot" or "black spot." The protection of the rapidly increasing fruit districts of the state from such pests as are already attacking trees here, and from the introduction of new ones through imported stock, is the problem with which the college experts will wrestle. The details of the campaign have not all been completed, but will be ready for announcement shortly.

Editor Better Fruit:

I herewith enclose check for one dollar for the renewal of my subscription to "Better Fruit," and trust that you will continue with even better success in the future than you have been accorded in the past. Yours very respectfully, Wm. Daylano, Minneapolis, Minnesota.

## Irrigation Economy



Means supplying water to your fields at the least cost consistent with an ample supply. If there is a spring or a running stream of water on your place you can utilize the power of this water to pump itself to where you need it. A Phillips Hydraulic Ram does the trick without a particle of attention from anyone after it is once in operation. It doesn't require oiling, even. Simple as can be; not a

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single spring or any part that can get out of order. This ram is a modern wonder. Low first cost and no operating expense. Send for further information, stating how much water fall you have and the quantity. Give us all the information you can.

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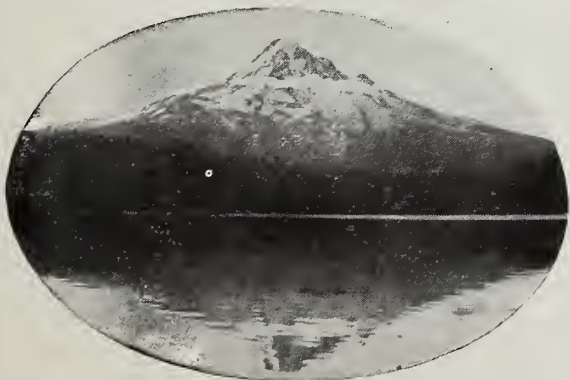
If you are interested, and have a little money, write, today, for full information in regard to this opportunity, the like of which you will not have again soon, and for "How I Can Secure an Orchard That Will Pay for Itself."

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Within the Shadow of Glorious Mount Hood



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Last year the apple crop of Hood River was valued at \$1,000,000.

About 1,000 acres in actual bearing produced this entire crop.  
**\$500 per acre is an average yield.**

\$2,000 per acre is an average price for full bearing orchards.

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**FIVE YEAR  
Orchards on  
easy payments  
for  
\$500 per acre**

Hood River District Land Co., Hood River, Oregon.

Sirs: Please send me information regarding your easy payment plan of purchasing orchards.

Name .....

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## THE GROWING OF DEWBERRIES IN COLORADO

BY W. PADDOCK, COLORADO AGRICULTURAL COLLEGE

THE average person scarcely knows what a dewberry is, yet the fact remains that a few are making comfortable incomes from small plantations of this fruit.

The dewberry may be likened to an overgrown blackberry, but it grows upon a trailing vine-like cane, instead of the upright cane of the blackberry.

The dewberry is by no means adapted to all situations and localities. It has succeeded best in the higher altitudes, but in locations where apples are considered to be a safe crop. Such surroundings are found in the Plateau Valley, and it is here that the growing of this fruit is becoming a specialty.

While dewberry canes are of trailing habit no trellises need be used. A better plan is to keep the canes cut back to a length of about two feet. They are thus made to assume an upright form, and a vigorous plant has the appearance of a thrifty low-growing bush. At the first pruning the new canes are tipped when they are twelve to eighteen inches in length. Just before the picking season begins the canes are pruned a second time, and this consists in cutting back the laterals to a length of about two feet. The following spring the plants are gone over a third time, when the old canes are removed and the vigorous laterals are shortened.

Winter protection is afforded by throwing a few shovelfulls of earth over each of the hills.

When grown in this manner the plants are commonly planted five feet apart each way. The cultivation and irrigation do not differ from that of raspberries.

The dewberry is very perishable, therefore extreme care must be exercised in picking and marketing. The berries must not be exposed to the sun after being picked, and over-ripe fruit will not bear transportation. After the berries have been packed the crates must be placed in a cool place, where they may be dried to a slight extent by a free circulation of air. The car in which they are shipped must be thoroughly ventilated. Iced cars only increase the liability to mold.

A dewberry plantation in good bearing will yield from three hundred to four hundred crates of berries per acre. The average price has been \$2.25 per crate at the shipping point. Assuming the cost of production to be \$1.25 per crate, a very high estimate, there remains a profit \$1 on each crate, or a net return of from \$300 to \$400 per acre. As has been intimated, this fruit does not succeed in all locations, neither would all men be adapted to the management of a five-acre plantation. Consequently there would appear to be small danger of the business ever being overdone. Particularly is this true of a crop of such perishable nature. Dewberry growing, therefore, offers a certain income to the few who will choose proper locations, and who are adapted to the work.

Editor Better Fruit:

I have just finished my first copy—February, 1911—and it looks good to me. Yours truly, A. R. Joyce, Salt Lake City, Utah.

### Free Trip to Denver, Colorado, Any Time During Year 1911

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Mention the package number sure, then you will get exactly the right stuff.

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We are offering some extra specials in our Clothing Department. Ask to see them.

Try a pair of American Lady \$3 and \$3.50 Shoes, or American Gentleman \$3.50 and \$4 Shoes

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Is the lead arsenate of the expert fruit grower. It is widely used in all of the famous fruit growing districts. Made in a factory which has specialized in arsenical manufactures for over 30 years, it has the advantage of this long experience in its preparation for the use of the discriminating fruit grower.

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THE PERFECT PRODUCT

Possesses miscibility with maximum sticking power. Is 20% stronger than the federal law requires.

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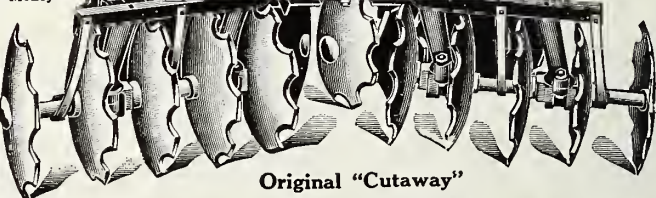
are used and endorsed by satisfied users throughout this entire country. Also in several foreign countries. Why? Because they decrease labor and increase crops.

Our disks are made of cutlery steel shaped and sharpened in our own shops and are the only genuine "Cutaway" disks.

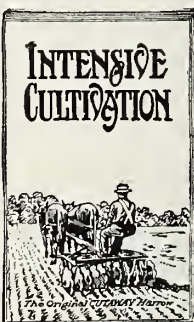
Beware of imitations and infringements. We make a tool for every crop. If your dealer can't supply the genuine "Cutaway," write us your needs. Satisfaction guaranteed. Prompt shipments. Send a postal today for our new catalogue "Intensive Cultivation." It's Free.

Why buy two tools when one will do two kinds of work and do it better and easier? Clark's original "Cutaway" Harrow can be used as a field harrow and its extension head frame converts it into an orchard harrow. Drawn by two medium horses and will cut 23 to 30 acres or double cut 15 acres in a day. The genuine "Cutaway" disk slices, stirs, lifts, twists and aerates the soil. Working the soil this way lets in the air, sunshine and new life and kills foul vegetation. Thorough cultivation makes large crops. Successful farmers, orchardists, gardeners and planters know that intensive cultivation is profitable when done properly.

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## ANSWERS TO PROBLEMS IN FRUIT GROWING

BY T. F. SMITH, ASHLAND, OREGON

Question 1—What small fruit does best among trees? Answer—Strawberries is the best small fruit one can plant among trees, but should not be grown among the trees longer than four or five years. There are no contagious diseases or insects on the berry plants to be carried to the trees.

Question 2—Does it do to put strawberries among cherry trees? Answer—Strawberries may be planted among cherry trees, and will do as well as they would under any other kind of trees. But if the land has poor drainage the cherry trees will not do so well. (This, however, applies to irrigated land.) Otherwise it is a safe proposition.

Question 3—In caring for strawberries how long should they be watered after the crop is gathered? Answer—The proper way to care for strawberries after fruiting is to cut the tops off close to the crown, let the cutting dry, add enough straw or other litter to the cuttings to cover the row, then set fire to bed. This will destroy rust, fungus and

insects. If your berries are among trees, where you cannot burn the patch over, cut off and remove tops and burn elsewhere, then spray with bordeaux 5-5-50. Immediately after burning the bed should be well irrigated and a thorough deep cultivation given before the new growth starts. The patch should then be kept wet and cultivated enough to keep the weeds down until the fall rains set in. This growing condition will help to keep out the worst enemy the strawberry has—the crown borer.

Question 4—What can I do to keep the worms out of my currants? Answer—Use arsenite, one pound to fifty gallons water; spray after bloom falls. Ten days later use white hellebore, one ounce to three gallons water. If worms persist give them more hellebore.

Question 5—Is it necessary to spray gooseberries and currants? If so, what must I use? Answer—Besides spraying the currant and gooseberry for worms they should be sprayed every spring with lime-sulphur for scale. The gooseberry

should be dusted with dry sulphur just after the bloom falls to prevent mildew. A second application will be necessary if they have been badly mildewed the previous year.

Question 6—In caring for the red raspberry how long should they be headed, and when should this be done? Answer—Three and one-half to four feet is about the right height for heading either red or black raspberries; the time to head the canes is when they grow to that height by pinching off the terminal bud.

Question 7—How green should the raspberry be picked for market? Answer—The berry should be well developed and fully ripe (not over-ripe). It should never be picked when it crumbles in picking, and never picked when hot.

Question 8—What fruit pays best here? Answer—The cherry, peach, apple and pear are each a paying proposition if planted on soil best adapted to the different kinds.

Question 9—What crop should follow a strawberry bed? Answer—Any good hoe crop that will bring the life back to it, that the pickers tramped out in gathering the berries.

◆ ◆ ◆

*Editor Better Fruit:*

Here's a dollar bill for another year's subscription to "Better Fruit," to begin with the April issue. Your excellent paper is certainly worth the small subscription price you ask. Yours very truly, W. G. Scholtz, King Hill, Idaho.

◆ ◆ ◆

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CLARKSTON, WASHINGTON

Has to offer for Spring Delivery, 1911,  
as complete a line of Nursery Stock  
as can be found in the Northwest

All stock propagated from selected bearing trees.

Experts all over the Pacific Northwest realize that no other nursery exercises greater care than we do, and that

No more reliable stock is grown than we produce.

For fall delivery 1911, and spring delivery 1912, we shall have to offer for the first time the

## RED GRAVENSTEIN

*The New Apple Sensation*

Will tell you more about this wonderful apple, which is purely a fortunate accident of nature, later on.

**THE VINELAND NURSERIES CO.** CLARKSTON  
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Owners of The Hanford Nurseries

## For Orchard Cultivation This Harrow Has Made Good

The "ACME" is the only implement you need to follow the plow in any kind of ground. It works either irrigated or dry farms. The sharp, sloping coulters on the "ACME" cut through the sod or stubble turned under by the plow, and do not drag it to the surface. The "ACME" is a perfect weed exterminator and mulcher, and will keep down weed growths in all orchards.

### ACME Pulverizing Harrow, Clod Crusher and Leveler

is also the best Harrow for general farming, and for fitting soil for grains, alfalfa, etc., because the coulters work every inch of the soil, cutting through to the under soil, which other harrows leave lumpy and full of air spaces, pulverizes and then compacts this under soil and leaves the top soil loose. Soil harrowed with an "ACME" will attract and conserve all the moisture for the benefit of the growing crops. Made entirely of steel and iron. In sizes to suit every one—3 to 17½ feet wide. Each and every part guaranteed.

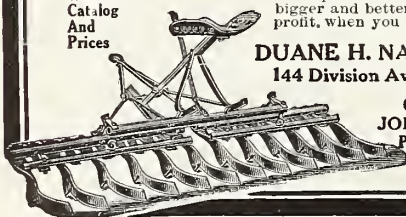
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Mulch—No Tree Roots Injured by The Coulters—  
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Choice  
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Apple Lands  
at  
Reasonable Prices  
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Tracts

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WHITE SALMON, WASHINGTON

**FIGURES COST PER BOX.**—G. C. Eikelberner takes serious exception to the statement of Peter Hovland as to the cost of producing a box of apples. Mr. Hovland's estimate was 86 cents. His figures were \$300 per acre for interest on the investment, rent, taxes, harrowing, cultivation, fertilizing, spraying, etc., with 36 cents additional for marketing expenses. Mr. Eikelberner in his estimate cuts out the expense of plowing, cultivating and fertilizing, holding that the growing of clover or some other cover crop in the orchard takes the place of fertilizing and makes the orchard more productive. His total estimate is about 61½ cents, divided as follows:

Eight per cent on \$2,000 valuation.....	\$160.00
Water rent .....	1.50
Taxes .....	10.00
Pruning (average).....	5.00
Brush hauling .....	1.00
Spraying .....	10.00
Irrigating .....	5.00

Total.....	\$192.50
Figuring 600 boxes to the acre, this would make a total expense of about 32 cents. Added to the 32 cents are the marketing charges, as follows:	
Packing .....	\$0.07
Hauling .....	.01½
Box, nails and making.....	.13
Paper .....	.02
Nailing .....	.01
Orchard hauling .....	.02
Picking .....	.03

Total.....\$0.29½  
This makes a total expense of 61½ cents per box. P. W. Lawrence kept very careful track of his expenses this year and they amounted to 61 cents per box. Other growers have been making a careful estimate for years past, and it is safe to say that the cost of growing and marketing a box of apples ranges between 50 and 60 cents.—Wenatchee World.

#### Editor Better Fruit:

Enclosed find one dollar to your magazine. It is far too good to do without, and is a great credit to the fruit business of the continent. I should like to feel that it was going into the hands of every fruit grower in Canada and the United States. Wishing you further success. Faithfully, Ralph S. Eaton, Kentville, Nova Scotia.

#### Editor Better Fruit:

You certainly edit a live paper. I am enjoying it every month. Yours truly, H. M. Magie, Waynesboro, Virginia.

## THE NORTHWEST ASSOCIATION OF NURSERYMEN

Oregon—Albany Nurseries, Albany; A. Brownell, Portland; Sunnyslope Nursery Company, Baker City; Carlton Nursery, Carlton; A. McGee, Orenco; M. McDonald, Orenco; H. S. Galligan, Hood River; Tune-a-Tune Nursery, Freewater; J. B. Weaver, Union; S. A. Miller, Milton; G. W. Miller, Milton; C. B. Miller, Milton; F. W. Power, Portland; J. B. Pilkington, Portland; C. F. Rawson, Hood River; F. W. Settlement, Woodburn; F. H. Stanton, Hood River; E. P. Smith, Gresham; W. S. Sibson, Portland; Sluman & Harris, Portland; C. D. Thompson, Hood River; H. A. Lewis, Portland; Sunnyslope Nursery Company Baker City.

Washington—C. J. Atwood, Toppenish; J. J. Bonnell, Seattle; A. C. Brown, R. D. 2, Selah; Ed Dennis, Wenatchee; A. Eckert, Detroit; D. Farquharson, Bellingham; George Gibbs, Clearbrook; W. A. Berg, North Yakima; Interlaken Nursery, Seattle; Inland Nursery and Floral Company, Spokane; Rolla A. Jones, R. D., Hilliard; A. Lingham, Puyallup; G. A. Loudonback, Cashmere; A. W. McDonald, Toppenish; C. Malmo, Seattle; C. McCormick, Portage; W. S. McClain, Sunnyside; T. J. Murray, Malott; G. W. R. Peaslee, Clarkston; Richland Nursery Company, Richland; J. A. Stewart, Christopher; C. N. Sandahl, Seattle; F. K. Spalding, Sunnyside; H. Schuett, Seattle; A. G. Tillinghast, La Conner; Wright Nursery Company, Cashmere; F. A. Wiggins, Toppenish; C. B. Wood, R. D. 2, Selah; C. N. Young, Tacoma; E. P. Gilbert, Spokane; Stephen J. Hermeling, Vashon; Northwest Nursery Company, North Yakima; H. C. Schumaker, Brighton Beach; E. P. Watson, Clarkston; Yakima Valley Nurseries, Toppenish; Yakima-Sunnyside Nurseries, Sunnyside.

California—John S. Armstrong, Ontario; F. X. Bouillard, Chico; J. W. Bairstow, Hanford; Chico Nursery, Chico; Leonard Coates, Morgan Hill; California Rose Company, Los Angeles; California Nursery Company, Niles; Charles A. Chambers,

Fresno; L. R. Cody, Saratoga; R. P. Eachus, Lakeport; A. T. Foster, Dixon; E. Gill, West Berkeley; C. W. Howard, Hemet; William C. Hale, Orangehurst; William Kelly, Imperial; James Mills, Riverside; S. W. Marshall & Son, Fresno; John Maxwell, Napa; C. C. Morse & Co., San Francisco; Fred Nelson, Fowler; Park Nursery Company, Pasadena; George C. Rooding, Fresno; Ruehl-Wheeler Nursery, San Jose; Silva & Bergholdt Company, New Castle; G. W. Sanders, Davis; Scheidecker, Sebastopol; W. A. T. Stratton, Petaluma; R. M. Teague, San Dimas; T. J. True, Sebastopol; J. B. Wagner, Pasadena; W. F. Wheeler, Oakesdale; Edwin Fowler, Fowler; Hartley Bros., Vaccaville; Thos. Jacobs & Bros., Visalia.

Alabama—W. F. Heikes, Huntsville.  
British Columbia—F. R. E. DeHart, Kelowna; M. J. Henry, Vancouver; F. E. Jones, Royal Avenue, New Westminster; Richard Layritz, Victoria; Riverside Nurseries, Grand Forks; Royal Nurseries & Floral Company, Vancouver.

Colorado—J. W. Shadow, Grand Junction.  
Idaho—Anton Diedrichsen, Payette; J. F. Littooy, Mountain Home; J. F. Smith, Blackfoot; Tyler Bros., Kimberly; J. C. Finstad, Sand Point; C. P. Hartley, Emmet; J. A. Waters, Twin Falls.  
Montana—Montana Nursery Company, Billings.  
New Hampshire—Benjamin Chase Company, Derry Village.

New York—Jackson Perkins Company, Newark; McHutchinson & Co., New York; Vredenberg & Co., Rochester.

Pennsylvania—J. Horace McFarland Company, Harrisburg.

Tennessee—Southern Nursery Company, Winchester.

Utah—Harness, Dix & Co., Roy; Orchardist Supply Company, Salt Lake; Pioneer Nursery Company, Salt Lake; Utah Nursery Company, Salt Lake; Davis County Nursery, Roy.

## Hood River Valley Nursery Company

Route No. 3, Box 227

HOOD RIVER, OREGON

Phone 325X

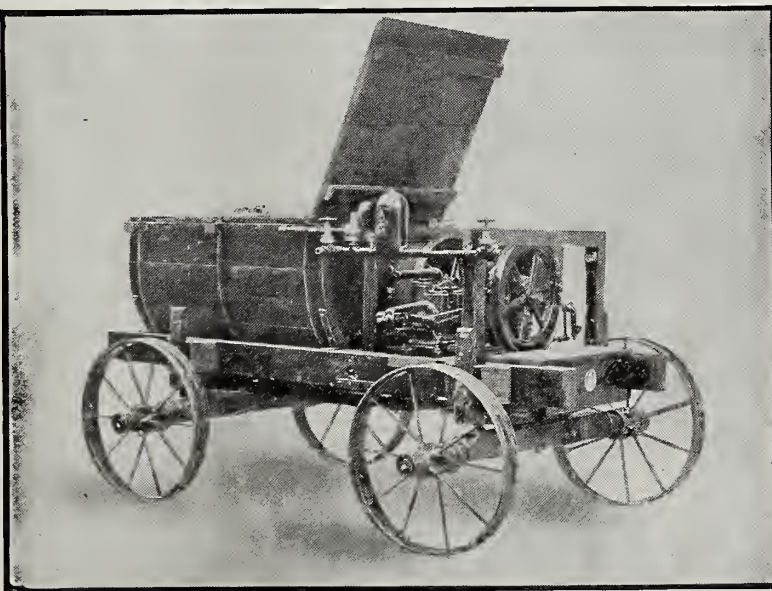
Will have for spring delivery a choice lot of one-year-old budded apple trees on three-year-old roots, the very best yearlings possible to grow. Standard varieties from best selected Hood River bearing trees—Spitzenbergs, Yellow Newtowns, Ortleys, Arkansas Blacks, Gravensteins, Baldwins and Jonathans. All trees guaranteed first-class and true to name. Start your orchards right with budded trees from our nursery, four miles southwest from Hood River Station.

WILLIAM ENSCHEDE, Nurseryman

H. S. BUTTERFIELD, President

# NEW POWER SPRAYER

ESPECIALLY CONSTRUCTED TO MEET THE REQUIREMENTS OF THE FRUIT GROWERS OF THE NORTHWEST



After talking with a number of the fruit growers, we have embodied in this Spray Outfit the suggestions which they gave.

The first machines on the market were too heavy (weighing not less than 2,000 pounds). This machine weighs only 1,300 pounds, which is a feature to be considered on hillsides and soft ground.

The machine is built low enough to clear the branches of the trees, being 4 feet 3 inches from the ground. The tank and cover for the engine are so constructed as to serve as a platform for the operator to stand on while spraying down into the calyx. Again it differs from the first machines in that it is very short, being but 4 feet 8 inches wheel base, making it possible to turn short.

This Spray Outfit, with the Fairbanks-Morse one-horsepower engine, direct connected to a special pump designed to give 200 pounds pressure continuously through two hose connections and nozzles from a tank of 150 gallons capacity, appeals to the fruit growers because it embodies every feature they regard as important.

We invite you to investigate this entirely new Spray Outfit. Write for catalog.

## FAIRBANKS, MORSE & COMPANY

PORTLAND, OREGON

SEATTLE, WASHINGTON

SPOKANE, WASHINGTON

**BY** A recent decision of the Interstate Commerce Commission the California Fruit Growers' Exchange has established its right to do its own precooling, and where the railroads precool the rate has been reduced from \$30 to \$7.50 a car. When the exchange precools and ships citrus fruits without ice it must assume the responsibility of damage in transit, although the roads are responsible for reasonably prompt service. This case grew out of the fight between the Arlington Heights Fruit Exchange and the railroads, in which the exchange demanded the right to precool its own fruit. The complaints made by the Arlington Heights shippers were that the refrigeration rate of the railroads was excessive, that the railroads' reluctance to ship fruit which was precooled was illegal, and that the rates under which the roads were willing to ship precooled cars were out of reason. While the railroad companies are upheld by the commission in many of their contentions, the bulk of the victory goes to the fruit exchange. In the final analysis of the case, however, the right of the shippers to avail themselves of the precooling system of shipping is established. On this point the report of the commission says:

"Clearly these growers who have devised and perfected this system of shipment should not be compelled to pay for the privilege of using it more than the fair cost to the carrier of providing the additional facilities, which are not included in the ventilated rate, with a fair profit. We are of the opinion that the precooling charge of \$30 per car is unreasonable and that this charge should not exceed \$7.50 per car. It is urged that to allow shippers to precool their own shipments will result in discrimination in favor of the large and against the small shipper, but this is not apparently true under actual conditions at the present time."

The decision is regarded as a body blow to the precooling establishments that have been erected by the Santa Fe and Southern Pacific roads in Southern California. The outcome presents many complicated questions. The exchange, when it does its own precooling, assumes responsibility in transit, the roads only being expected to make reasonable time. In the case of tramp cars, where there are frequently long delays—which delays are caused by the shippers' own orders—it appears that the fruit exchange will have to assume all loss.—The Packer.

**SMALL FRUITS.**—Strawberries may be grown for two cents a quart. I have raised 400 crates per acre, but 200 crates is an average yield. Raspberries may be grown for four cents per quart; yields vary from 60 to 150 crates per acre. Blackberries can be grown cheapest of all—one cent per quart, and yields from 60 to 120 crates per acre. Other fruits may be grown cheaply, such as grapes, gooseberries, currants, cherries, plums, pears, peaches and apples, the latter of which, with a selection from early to later ripening varieties, will of themselves supply fruit nearly the whole year. Raspberries bear the second year after planting. I have tested over twenty-five varieties of the black sort; Kansas and Cumberland lead. Cardinal, nearly purple, yields fairly well; few of the red varieties yield paying crops; would advise planting them only close to a city market. The blackcap raspberries have made me the most money during the past twenty years, and with better markets every year. Blackberries bear the second year after planting. Early Harvest is not as yet excelled by the newly introduced early sorts, and leads for profit. Kittatiny fifteen to twenty-five years ago was in the lead, but of late years it rusts too badly, and I would not plant it. Snyder is hardy; I never knew it to rust or winter-kill. Some new sorts promise well, but it is better to go slow than too fast in planting new varieties. Peaches, pears, plums and cherries will begin to bear the second or third year; mulberries, which begin to bear the second year, should be planted in the poultry yard and cherry orchard, as the birds prefer mulberries to cherries. Apple trees will commence to bear the fourth and fifth years, like other fruits, owing to varieties and care.—Jacob Faith in Colman's Round World.

**COST OF APPLYING WATER.**—The first irrigation on new land is the most difficult and expensive, often costing one dollar or more to the acre. After the banks of the ditches have settled and become firm the average cost is sixty cents an acre. Where three men are needed to manage the irrigation in the spring, but one man is required later in the season. With the ditches in good order and the furrow system established, one can irrigate 100 acres of small grain or 150 acres of alfalfa. From twelve to eighteen hours will be required for the irrigation, and with a head of two second feet water may be running on from six to ten acres at one time. If the system is automatic, but a part of the working hours of the day will be required to look after the irrigation, but when not so arranged constant attention is necessary. When funnels are not used one man can generally irrigate four or five acres a day, but if the ditches are new he can attend to but two or three. The average cost of clearing, preparing land for irrigation, applying water, and the cost of production of two of the leading crops may be summarized as follows, assuming that the automatic furrow system is used and that the alfalfa is sown without a nurse crop: Clearing, \$5; plowing, \$2.50; leveling, 50c; ditching, \$1; seeding, \$2.50; furrowing, 50c; spouts, \$1; irrigating three times, \$2; harvesting one ton, \$2.30; total, \$17.30. Alfalfa the second year, Repairing ditches, 25c; irrigating three times,

\$1.50; harvesting six tons, \$10.80; total, \$12.55. Wheat on second-year land: Plowing, \$2.50; leveling, 50c; seeding, \$2.10; furrowing, 50c; repair of ditches, 25c; irrigating two times, \$1.20; harvesting forty-five bushels, \$5.60; total \$12.70. Flooding is the general practice and furrow irrigation is not employed for small grain or alfalfa. The fields are laid off into long strips 100 to 200 feet wide. These are termed lands and are separated by low levees which confine the water to each strip.—Exchange.

My Dear Rulofson:—The "Hood River" apples reached us in good condition. They were delicious. We enjoyed the flavor of the apples and greatly appreciated the kind remembrance. The old saying, "Out of sight, out of mind," did not apply in this instance.

We made a gastronomical discovery while eating

the red ones. Spitzenbergs, I believe they are called. Here's the discovery: If you take a bite of the apple and at the same time a bite of one of those small French cakes called Macaroons you will find it not only very toothsome, but will notice a delicious farewell flavor similar to the taste of ice cream. It is somewhat like eating a piece of Roquefort cheese with a small particle of Bartlett Pear. Each particle seems to better develop the flavor of the other.

We hope that it will be in the line of probability to have, in the near future, the pleasure of your company at a home luncheon with us. Then, if between the three of us, we do not make some other surprising gastronomical discovery I shall think that we are not "Bon Vivers."

Thanking you very much for the apples, likewise for the remembrance, we remain thy friends, Joe and Harry, San Francisco.



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*The Prosperity States  
of America*

Get a home in this Land of Plenty. Make a comfortable living—and a good profit—as thousands are, raising fruits, vegetables, grains, grasses, alfalfa, cattle (or dairying), hogs, poultry, bees.

A healthful, growing climate—land marvelously productive, in irrigated and non-irrigated sections. Free Government land in choice localities. New extensions of the Northern Pacific Railway and its allied lines are opening up rich fields to the Homeseeker. Come now, while you can buy land cheap.

Tell us which state you are interested in, what kind of land you want, and what you want to do. We will send free illustrated booklets and full information about low fares to the Northwest for the Spring and Summer months. Ask for illustrated folder "Through the Fertile Northwest."

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A booklet descriptive of the many resources of this city and the surrounding country will be sent free on applying to the Publicity Department of the Ashland Commercial Club, Ashland, Oregon.

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North Yakima, Washington

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Apples, Pears, Peaches, Cherries,  
Plums, Prunes, Apricots, Grapes  
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Mixed carloads start about  
July 20. Straight carloads in  
season. Our fruit is the very  
best grade; pack guaranteed

We use Revised Economy Code



TWO-YEAR-OLD ORCHARD AT PAYETTE, IDAHO, PLANTED WITH OUR YEARLING TREES  
(Owner's name furnished on request)

this kind of tree is plainly evidenced. If you are contemplating the planting of an orchard, plant the tree that brings you results; don't sacrifice satisfaction and dollars for a few cents in the original cost per tree.

Ask for "Descriptive Booklet of Our Plant"—it's free and helpful.

## OREGON NURSERY COMPANY, Orenco, Oregon

# Your Future Orchard

Would you be satisfied if you could get trees that would make YOU an orchard like the accompanying illustration, in just TWO SHORT YEARS after planting? You can, if you will. This is a two-year-old orchard near Payette, Idaho, planted with our one-year-old budded tree having a strong three-year-old root. The superiority of

## NORTHWEST GROWERS' UNIONS AND ASSOCIATIONS

**WE PUBLISH** free in this column the name of any fruit growers' organization. Secretaries are requested to furnish particulars for publication.

### Oregon

Eugene Fruit Growers' Association, Eugene; Ashland Fruit and Produce Association, Ashland; Hood River Fruit Growers' Union, Hood River; Hood River Apple Growers' Union, Hood River; Grand Ronde Valley Fruit Growers' Union, La Grande; Milton Fruit Growers' Union, Milton; Douglas County Fruit Growers' Association, Roseburg; Willamette Valley Prune Association, Salem; Mosier Fruit Growers' Association, Mosier; The Dalles Fruit Growers' Union, The Dalles; Salem Fruit Union, Salem; Albany Fruit Growers' Union, Albany; Coos Bay Fruit Growers' Association, Marshfield; Estacada Fruit Growers' Association, Estacada; Umpqua Valley Fruit Growers' Association, Myrtle Creek; Hyland Fruit Growers of Yamhill County, Sheridan; Newberg Apple Growers' Association, Newberg; Dufur Valley Fruit Growers' Union, Dufur; McMinnville Fruit Growers' Association, McMinnville; Coquille Valley Fruit Growers' Union, Myrtle Point; Stanfield Fruit Growers' Association, Stanfield; Oregon City Fruit and Produce Association, Oregon City; Lincoln County Fruit Growers' Union, Toledo; Rogue River Fruit and Produce Association, Medford; Mount Hood Fruit Growers' Association, Sandy; Northeast Gaston Farmers' Association, Forest Grove; Dallas Fruit Growers' Association, Dallas; Northwest Fruit Exchange, Portland.

### Washington

Kennewick Fruit Growers' Association, Kennewick; Wenatchee Fruit Growers' Union, Wenatchee; Puyallup and Sumner Fruit Growers' Association, Puyallup; Vashon Island Fruit Growers' Association, Vashon; Mt. Vernon Fruit Growers' Association, Mt. Vernon; Spokane Fruit and Vegetable Growers' Association, Spokane; White Salmon Fruit Growers' Union, White Salmon; Thurston County Fruit Growers' Union, Tumwater; Bay Island Fruit Growers' Association, Tacoma; Whatcom County Fruit Growers' Association, Curtis; Yakima Valley Fruit and Produce Growers' Association, Granger; Buckley Fruit Growers' Association, Buckley; Lewis River Fruit Growers' Union, Woodland; Yakima County Horticultural Union, North Yakima; Evergreen Fruit Growers' Association, R8, Spokane;

Lake Chelan Fruit Growers' Association, Chelan; Zillah Fruit Growers' Association, Toppenish; Kiona Fruit Growers' Union, Kiona; Mason County Fruit Growers' Association, Shelton; Clarkston Fruit Growers' Association, Clarkston; Prosser Fruit Growers' Association, Prosser; Walla Walla Fruit and Vegetable Union, Walla Walla; The Ridgefield Fruit Growers' Association, Ridgefield; The Felida Prune Growers' Association, Vancouver; Grand View Fruit Growers' Association, Grandview; Spokane Valley Fruit Growers' Company, Spokane; Goldendale Apple Growers' Union, Goldendale; Yakima Valley Fruit Growers' Association, North Yakima; Southwest Washington Fruit Growers' Association, Chehalis; The Touchet Valley Fruit and Produce Union, Dayton; Lewis County Fruit Growers' Association, Centralia; The Green Bluffs Fruit Growers' Association, Mead; Garfield Fruit Growers' Union, Garfield.

### Idaho

Southern Idaho Fruit Shippers' Association, Boise; New Plymouth Fruit Growers' Association, New Plymouth; Payette Valley Apple Growers' Union, Payette; Parma-Roswell Fruit Growers' Association, Parma; Weiser Fruit and Produce Growers' Association, Weiser; Council Valley Fruit Growers' Association, Council; Nampa Fruit Growers' Association, Nampa; Lewiston Orchards Producers' Association, Lewiston; Boise Valley Fruit Growers' Association, Boise; Caldwell Fruit Growers' Association, Caldwell; Emmett Fruit Growers' Association, Emmett; Twin Falls Fruit Growers' Association, Twin Falls; Weiser River Fruit Growers' Association, Weiser.

### Colorado

San Juan Fruit and Produce Growers' Association, Durango; Fremont County Fruit Growers' Association, Canon City; Rocky Ford Melon Growers' Association, Rocky Ford; Plateau and Debeque Fruit, Honey and Produce Association, Debeque; The Producers' Association, Debeque; Surface Creek Fruit Growers' Association, Austin; Longmont Produce Exchange, Longmont; Manzanola Fruit Association, Manzanola; Delta County Fruit Growers' Association, Delta; Boulder County Fruit Growers' Association, Boulder; Fort Collins Beet Growers' Association, Fort Collins; La Junta Melon and Produce Company, La Junta; Rifle Fruit and Produce Association, Rifle; North Fork Fruit Growers' Association, Paonia; Fruitita Fruit and Produce Association, Fruitita; Grand Junction Fruit Growers' Association, Clifton; Palisade, Grand Junction; Palisade

Fruit Growers' Association, Palisade; Peach Growers' Association, Palisade; Colorado Fruit and Commercial Company, Grand Junction; Montrose Fruit and Produce Association, Montrose; Hotchkiss Fruit Growers' Association, Hotchkiss; Paonia Fruit Exchange, Paonia; Colorado Fruit Growers' Association, Delta; Crawford Fruit Growers' Association, Crawford; Manzanola Fruit Growers' Association, Manzanola.

### Montana

Bitter Root Fruit Growers' Association, Hamilton.

### Utah

Farmers and Fruit Growers' Forwarding Association, Centerville; Ogden Fruit Growers' Association, Ogden; Brigham City Fruit Growers' Association, Brigham City; Utah County Fruit & Produce Association, Provo; Willard Fruit Growers' Association, Willard; Excelsior Fruit & Produce Association, Clearfield (Postoffice Layton R. F. D.); Centerville Fruit Growers' Association, Centerville; Bear River Valley Fruit Growers' Association, Bear River City; Springville Fruit Growers' Association, Springville; Cache Valley Fruit Growers' Association, Wellsville; Green River Fruit Growers' Association, Green River.

### British Columbia

Peachland Fruit Growers' Association, Limited, Peachland; British Columbia Fruit Growers' Association, Ladner; British Columbia Fruit Growers' Association, Victoria; Victoria Fruit Exchange, Victoria; Hammond Fruit Association, Hammond; Western Fruit Growers' Association, Mission; Mission City Fruit Growers' Association, Mission; Hatzic Fruit Growers' Association, Hatzic; Farmers' Exchange, Salmon Arm; Okanagan Fruit Union, Limited, Vernon; Farmers' Exchange, Kelowna; Kootenay Fruit Union, Limited, Nelson; Grand Forks Fruit Growers' Association, Grand Forks; Creston Fruit and Produce Exchange, Creston; Kaslo Fruit Growers' Association, Kaslo; Summerland Fruit Growers' Association, Summerland.

### Editor Better Fruit:

Enclosed find one dollar for subscription to your wonderful paper. Fruit grower or not, I wouldn't be without it for many times its price. I take three other fruit papers, and I must say that I have gotten more real information out of "Better Fruit" on picking, packing and all subjects relating to orchard management than all the others put together. Yours truly, Richard H. Klemmer, Middlebrook, Virginia.

# The HARDIE TRIPLEX



Is built by specialists in Spray Pump manufacturing. Years of "knowing how" and a good factory insures you a sprayer that gives you the pressure and capacity you need, and one that anybody can run successfully all the time.

A cab with curtains covers and protects your machine from weather and spray.

On account of its light weight, your team can haul it anywhere, and its low construction allows you to operate in closely set orchards without damage to fruit or trees.

Our rotary propeller agitator insures you a uniform spraying mixture at all times, and this, with the even high pressure given by our Triplex Pump, gives you the highest yield of perfect fruit.

Yourself and the few tools we send with each machine constitute all the machinists and experts needed for successful operation.

Efficiency, lightness of weight, ease of operation and low cost of upkeep leave in the Hardie Triplex

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I have the exclusive sale of the East Hood River Land Company's lands.

Some choice tracts in one to three-year-old orchard.

I have had fifteen years' experience in the Mosier district and I have on my list the best buys in this district.

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Grand Junction, Colorado

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# Seeds

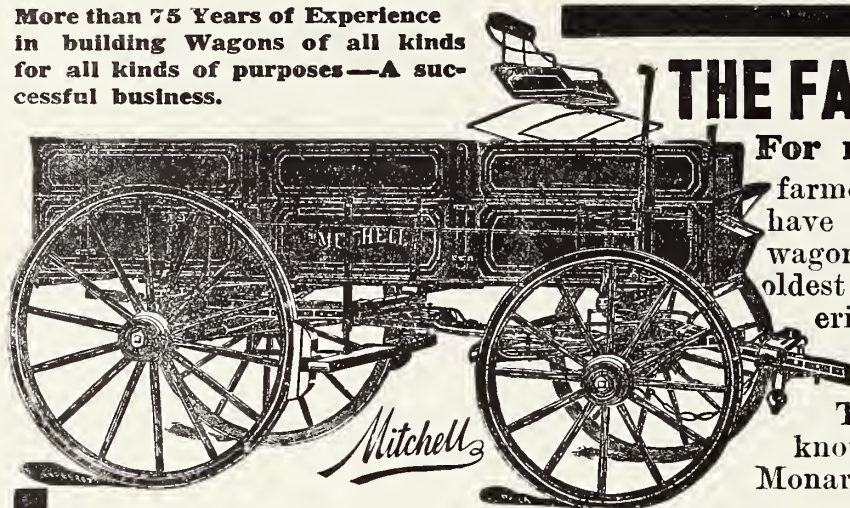
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Buy a wagon that is made right from start to finish. The "Mitchell" wagon has a reputation to live up to. So you are sure to get the best wagon that can be made, also you get that at a price that is very low considering the grades of materials that go into the manufacture of a Mitchell. All wood stock is thoroughly air seasoned. Each part is made of stock especially suited to its purpose. Axles, singletrees and neckyokes—hickory. Hubs, spokes, felloes, bolsters, hounds and tongue—white oak. Doubletrees, brake bars, bed sills and box cleats—rock elm. Sides, ends and seats—yellow poplar. Buy a Mitchell at your dealers. Every farmer should have a Mitchell catalog to refer to. We will mail one postpaid, free of charge, upon the receipt of your name and address.

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Steel Flumes

Columbia Hydraulic Rams

COLUMBIA ENGINEERING WORKS, Portland, Oregon



*Dollars and Dollars and Dollars*

Yes, that is what our Shrubbery and Fruit Trees yield to our customers. Our Ornamental Trees and Shrubbery enable our customers to inhabit the most beautiful spots on earth.

If interested, call our salesman or write us.

ALWAYS ROOM FOR ONE  
MORE SALESMAN

Capital City Nursery Company

413-416 U. S. National Bank Building, SALEM, OREGON

The picture below shows sixty acres of five-year-old orchard belonging to  
THE DUFUR LAND & DEVELOPMENT COMPANY, at

# Dufur, Oregon

DUFUR is fifteen miles south of The Dalles. The climatic conditions at DUFUR are identical with Hood River. Hood River has made a success of apple growing. We have better soil at DUFUR than they have at Hood River. This orchard at Hood River would easily bring \$1,200 per acre. We also have 1,400 acres of land adjoining this orchard which we will plant to orchard, sell at prices from \$350 to \$500 per acre, and care for same for five years. Terms, 10 per cent cash, 1½ per cent per month.



We beg to quote below an extract from the address delivered by Mr. A. I. Mason of Hood River, before the Y. M. C. A. in Portland, Oregon, in January last, in which he states as follows:

"If you are going to grow apples, select your locality where you can grow the apple the most successfully and get the most out of it. As I have said before, you do not necessarily have to go to Hood River. Dufur is another splendid place. I do not know but what I would go and investigate Dufur if I were going to leave our valley. I have seen as fine apples there as anywhere in the Northwest, and I am not boosting Dufur, either."

The above quotation of Mr. Mason is given with his knowledge and consent, and we feel safe in saying that his judgment with reference to the fruit-growing industry in Oregon is as good as the best.

For further information inquire

## THE HART LAND COMPANY

SELLING AGENTS

912 CHAMBER OF COMMERCE BUILDING

PORTLAND, OREGON